

The Political Economy of Public Bureaucracy:  
The Emergence of Modern Administrative Organizations

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Dissertation submitted in partial fulfillment of the  
requirements for the degree of Doctor of Philosophy  
in the Department of Political Science  
in the Graduate School of  
Duke University

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## ABSTRACT

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## Abstract

How can we explain the significant variation in the organization and performance of public bureaucracies across countries, across regions, and between the levels of the administrative hierarchy? Considering the high level of path dependence in bureaucratic organization, this dissertation explains divergence in the institutions of public administrations through a set of historical analyses focused on the 19th and early 20th centuries—a time period crucial for the establishment of modern bureaucracies. The second chapter deals with the influence of socio-economic groups in countries that enjoyed domestic political autonomy. Three social classes had fundamentally different interests in the organization of the state apparatus, and their relative political influence was a key factor determining its organizational characteristics. The third and fourth chapters deal with the impact of foreign rule on the bureaucratic organization of countries that did not enjoy domestic political autonomy. Specifically, the third chapter focuses on within-country regional variation in bureaucratic organization and provides an in-depth study of Poland, which was historically ruled by three empires with vastly different bureaucracies. I develop an account of path dependence and suggest that persisting differences in culture and perceptions of public administration are key drivers of regional divergence. Finally, the fourth chapter focuses on variation in bureaucratic organization between levels of the administrative hierarchy and provides an in-depth study of Romania, which was historically partially ruled by the Habsburg Empire and partially autonomous. I develop a theoretical framework of imperial pervasiveness that explains differential effectiveness of external rule along the administrative hierarchy.

Für meine Eltern

(For my parents)

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# Chapter 1

## Introduction

### 1.1 The Core Puzzle and Research Question

Public bureaucracies are at the very core of the modern state. Because of their extensive role in policy design, policy implementation, and the provision of public services, they are essential to the operation of political systems (Geddes, 1994, 138; Ingraham, 1995, xxii; Vogler, 2019). Moreover, bureaucratic institutions often influence the overall political and economic trajectory of countries. For example, the administrative capabilities of the state may decide whether transitioning from authoritarianism to democracy leads to economic redistribution (Soifer, 2013). Similarly, bureaucratic capacity can influence the durability of authoritarian regimes in the first place (Slater and Fenner, 2011).<sup>1</sup> There are many other ways in which public bureaucracies interact with their political, social, cultural, and economic environment, which places them at the very center of modern societies (Vogler, 2019).

Despite the bureaucracy's importance for the political-economic development of nations and the capacity of rulers to govern, its organization and performance vary markedly around the globe. Substantial variation is observable even across and within OECD countries (Charron, Dahlström and Lapuente, 2016; Dahlström, Teorell, Dahlberg, Hartmann, Lindberg and Nistotskaya, 2015*b*; Dahlström and Lapuente, 2017; Peters, 2001). Interestingly, this divergence in institutional structures can be seen as contrary to the predictions of one of the most famous theorists of bureaucracy: Max Weber. He anticipated a relatively uniform rationalization process,

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<sup>1</sup>On the complex interaction between democracy and state capacity, see also Slater (2008).

leading to a modern bureaucracy strictly based on specialization, hierarchy, and meritocracy. While we do observe a convergence in terms of the vertical and horizontal differentiation of bureaucratic structures, there is substantial variation in terms of the functioning of bureaucracies (e.g., internal procedures, recruitment patterns, levels of centralization, and executive-bureaucracy relations) across countries.<sup>2</sup> Based on Weber's work, we might expect the public administrations of advanced industrialized countries to be much more institutionally homogeneous than they are (Olsen, 2006; Olsen, 2008; Silberman, 1993, ix; Weber, 1978, Ch. 11).

Instead, we observe substantial variation in the quality and performance of administrative institutions across *countries*, across *regions*, and even between the *levels of the administrative hierarchy*. Divergence of bureaucratic organization in these three dimensions is the core underlying puzzle of this dissertation. Closely related to this puzzle, my main research question is: What explains the substantial variation in the organization of public administrations across countries, across regions, and between the levels of the administrative hierarchy?

Throughout most of this dissertation, beyond the general efficiency or effectiveness of administrative institutions, I will primarily focus on two aspects of bureaucratic organization: (1) the 'meritocracy in recruitment' and (2) the 'level of political control.' The former can be defined as the selection of candidates based on their qualifications and education, i.e. their preparedness for the job, rather than other factors. Meritocracy has been found to reduce corruption levels and to increase both business entry and economic growth rates (Dahlström and Lapuente, 2017; Dahlström, Lapuente and Teorell, 2012; Evans and Rauch, 1999; Nistotskaya and Cingolani, 2016), which underscores its relevance to political economy.

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<sup>2</sup>For an overview of differences and similarities in the functioning of bureaucracies in a variety of different contexts, see Raadschelders and Vigoda-Gadot (2015).



In addition to meritocracy, various contributions to the literature in public administration and political economy emphasize the empirical and/or normative importance of the political control of bureaucratic systems. Political control can be exercised through several means, including budget constraints, administrative law, and passing highly specific bills. These different mechanisms and the principal-agent problem in general have been investigated in much detail by leading scholars of political science and public administration (Bertelli, 2012; Calvert, McCubbins and Weingast, 1989; Clinton, Lewis and Selin, 2014; Epstein and O'Halloran, 1994; Gailmard and Patty, 2007; Gailmard and Patty, 2012; Huber and Shipan, 2002; McCubbins, Noll and Weingast, 1987; McCubbins and Schwartz, 1984; McCubbins, Noll and Weingast, 1989; Tullock, 2005; Van der Meer, 2009). In the second chapter of this dissertation, I will focus on one specific type of political control: appointments that allow politicians to directly place candidates in bureaucratic offices (Gallo and Lewis, 2012; Gilmour and Lewis, 2006; Hollibaugh, Horton and Lewis, 2014; Lewis, 2009; Wood and Waterman, 1991).

If we want to explain variation in the organization of modern bureaucracies, which time period should we consider? One of the most consistent findings in the literature on public administration is that bureaucratic organization is highly path-dependent. Administrative institutions that were established during the formative period of modern bureaucracies often display high levels of inter-temporal persistence.<sup>3</sup> This formative period of modern bureaucratic systems covers the 19th and early 20th centuries—an age that many scholars consider decisive for explaining variations in the functioning of public administrations (Mann, 1993, Ch. 11-14; Raadschelders and Rutgers, 1996; Raphael, 2000, 34-35; Silberman, 1993).<sup>4</sup>

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<sup>3</sup>On the issue of path dependence in bureaucratic organization, see Raadschelders (1998).

<sup>4</sup>Partially based on these and other sets of the literature, in chapter 2 (section 2.3), I develop a general framework of bureaucratic path dependence that outlines four specific mechanisms of

Based on these findings about path dependence, my dissertation analyzes historical processes in different sets of countries and regions to explain variation in bureaucratic institutions. The second chapter deals with countries that enjoyed domestic political autonomy in the 19th and early 20th centuries and focuses on the diverging interests of major socio-economic groups.

Indeed, in light of the intensity of internal political conflicts that many domestically autonomous countries experienced in the 19th and early 20th centuries, it is surprising that almost no scholars in political science have put social groups at the center of an explanation for the establishment of different civil service systems. Yet many scholars argue that social groups had substantial influence on state institutions (Acemoglu and Robinson, 2005; Ansell and Samuels, 2014; Korpi, 2006). Therefore, the key research question that motivates the second chapter is the following: How did social groups historically shape institutions of the public administration, and to what extent is this influence still visible in present-day bureaucratic systems?

In the third chapter, the focus shifts to the public administration of a country that was under the control of empires when modern bureaucracies were established. Because many former colonies are still in the process of economic development and bureaucracies affect growth patterns (Evans, 1995; Evans and Rauch, 1999; Vogler, 2019), variation in the quality of administrative institutions is particularly relevant to the economic future of post-colonial countries. Interestingly, we often observe substantial divergence in bureaucratic performance and the quality of public institutions across regions *within* the same state (Charron, Dahlström and Lapuente, 2016; Folke, Hirano and Snyder, 2011; Krause, Lewis and Douglas, 2006). These cross-regional differences could also explain inequality in development patterns within countries.

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persistence. In chapter 3 and chapter 4, I further discuss some of these channels with respect to the cases of administrative organization in Poland and Romania.

Could imperial legacies contribute to the observed variation? Scholars have already discovered lasting effects of empires in many other dimensions, including legacies of legal systems (La Porta, Lopez-De-Silanes, Shleifer and Vishny, 1997), slavery (Nunn, 2008), and political as well as economic institutions (Acemoglu, Johnson and Robinson, 2001; Nathan, 2019). There even is evidence of indirect imperial influences on administrative centralization, public goods, and development in independent states that ‘merely’ experienced external pressures from colonial powers (e.g., Paik and Vechbanyongratana, 2019). Therefore, the key research question of the third chapter is: Does historical imperial rule have long-term effects on the organization of public bureaucracies?

Finally, the fourth chapter of my dissertation considers variation between levels of the administrative hierarchy. Historical imperial rule could also play a role here. Specifically, effectiveness in the implementation and operation of imperial bureaucratic institutions could differ systematically between national, regional, and local institutions. However, to the best of my knowledge, there is no theory and empirical test that consider variations of imperial legacies along the administrative hierarchy. This is surprising, given how prominent and extensive the literature on colonial origins is (e.g., Acemoglu, Johnson and Robinson, 2002; Becker, Boeckh, Hainz and Woessmann, 2016; La Porta, Lopez-De-Silanes, Shleifer and Vishny, 1998; Nikolova, 2017; Paine, 2019).

A widespread practice in the existing literature on colonial origins is the aggregation of data across the national, regional, and/or local levels of the administrative hierarchy. However, such procedures of data aggregation can be associated with a loss of crucial information (cf. Gingerich, 2013). An example for this practice is a prominent contribution by La Porta et al. (1997), in which the United States is coded as a “common law” country. This coding choice does not reflect the French, Spanish,

or Mexican civil law origins of some American state legal systems. Yet accounting for such variation could be important because different historical legal systems could still have an influence on various political, economic, and legal outcomes (Berkowitz and Clay, 2005; Berkowitz and Clay, 2012). Accordingly, the fourth chapter of my dissertation elucidates differences in imperial long-term influences along the administrative hierarchy.<sup>5</sup> Thus, the key research question of this chapter is: Is variation between the quality of regional and local state institutions related to past imperial rule?

In short, we observe substantial variation in the institutions and performance of public administrations across countries, across regions, and even between levels of the administrative hierarchy. The goal of my dissertation is to explain this variation.

## 1.2 Literature Review

### 1.2.1 Emerging Bureaucracies in Autonomous Countries

While the existing literature consists of a large number of outstanding pieces of work—many of which this dissertation builds upon—knowledge in certain areas of research on public administration could still be advanced. In this section, I provide a brief overview of the existing literature and show in which ways we could improve our current knowledge.

The literature considering domestically autonomous countries and the literature considering the legacies of foreign rule are different not only in scope, but also in terms of theoretical approaches, methods, and weaknesses. Therefore, I will first discuss how the literature on domestically autonomous countries could be advanced.

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<sup>5</sup>This chapter also considers judicial institutions since they are prominently featured in the associated literature (e.g., Becker et al., 2016; Berkowitz and Clay, 2012).

As indicated above, the literature providing cross-national analyses of bureaucratic organization consists of a number of outstanding scholarly contributions. However, the vast majority of existing studies do not sufficiently consider social groups as the crucial actors behind administrative reform.<sup>6</sup> An example is the otherwise excellent study by Silberman (1993) that thoroughly explores the impact of macro-political variables on bureaucratic organization, but mostly neglects the role of social groups as the driving forces behind institutional changes.

Moreover, even contributions that do take social groups into account, such as a study by Hollyer (2011), often see them as *passive* actors and do not assign them an active role in shaping the nascent public administration. This is problematic because, as indicated previously, we know from a number of different contributions that social groups had substantial influence on the design of public institutions, including fundamental characteristics of the political system and the welfare state (Acemoglu and Robinson, 2005; Ansell and Samuels, 2014; Korpi, 2006). A notable exception is the study by Tolbert and Zucker (1983), which is limited in scope to the US.

Most studies also focus on institutional characteristics that can be theoretically distinguished from the highly relevant organizational dimensions of political control and/or meritocracy. For instance, in the scheme of Silberman (1993), meritocracy could be high or low in both types of systems he considers (professional versus organizational bureaucracies). Similarly, Kurtz (2009) analyses another important (single) aspect of bureaucratic organization: the overall strength and centralization of coercive authority—which is different from my focus on two specific dimensions of

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<sup>6</sup>In addition to the literature on the influence of social groups on early state institutions (Acemoglu and Robinson, 2005; Ansell and Samuels, 2014; Korpi, 2006), the long history of individuals expressing their dissatisfaction with the state and public services (e.g., Mladenka, 1981; Shapiro, Tackett, Dawson and Markoff, 1998) may be seen as further motivation for a study focused on the position of social groups towards the bureaucracy and their influence on it.

bureaucratic organization.<sup>7</sup>

There are also many outstanding studies on bureaucratic organization that are restricted in scope to a single country case, most frequently the United States (Carpenter, 2001; Johnson and Libecap, 1994; Skowronek, 1982). Despite the rigor of these contributions, their focus on a single case often limits their (external) utility when applying their theoretical arguments to other contexts. Some further studies (e.g., Grindle, 2012; Kurtz, 2013) concentrate on the unique experiences of Latin American countries, including the specific influence of decolonization processes amongst others. Accordingly, the insights that can be derived from these studies may not be directly transferable to other world regions.

Finally, the widely recognized work by Shefter (1994), who considers the influence of social groups, mainly focuses on party strategies in terms of implementing patronage recruitment (which may vary between parties in the *same* political system) and does not primarily address the overall institutional framework of public bureaucracies that governs meritocracy and political control.

To summarize, there are a number of substantive areas of interest in which the existing literature on the emergence of public bureaucracies in autonomous countries can be advanced. Most importantly, the literature is currently missing a comparative account of how social groups influenced the institutional framework of nascent public administrations. This is exactly the gap that the second chapter of my dissertation aims to fill.

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<sup>7</sup>Moreover, the literature on early state building, represented by Tilly (1990) and Ertman (1997), cannot fully account for the variation that I investigate here. For details on this issue, see chapter 2 (section 2.2).

## 1.2.2 Emerging Bureaucracies in Non-Autonomous Countries

With respect to countries that were subject to external rule when modern bureaucracies emerged, the existing literature on colonial origins or imperial legacies is most relevant to my dissertation. This strand of the literature is quite different from the aforementioned contributions on internal political conflicts and the development of 'Western' countries. In line with differences in the substantive area of interest, the methodologies and weak spots of this literature are also of a different kind.

First, while there are many studies on legacies in economic, legal, and political institutions, there are generally fewer contributions on public bureaucracies than on other aspects of imperial rule. Despite this general scarcity, a handful of relevant contributions deal with the issue, including those by Becker et al. (2016), Lange (2004), Lee and Schultz (2012), and Mkandawire (2010).

What are the weak spots of these existing studies? While they have found interesting relationships between past imperial rule and bureaucratic characteristics, they do not measure bureaucratic organization *directly*, but instead consider perceptions (Becker et al., 2016) or social, political, and economic consequences thereof (Lange, 2004; Lee and Schultz, 2012; Mkandawire, 2010). Additionally, with the exceptions of the studies by Becker et al. (2016) and Lee and Schultz (2012), two common issues in much of this literature are (1) high levels of unobserved heterogeneity in the units of analysis and (2) the potential of non-random selection into treatment. Such problems could and should be addressed in a rigorous research design, which aims at reducing the impact of these and similar issues.

In addition to the fact that imperial legacies in the administrative state are somewhat under-studied, there also is no rigorous theory of general differences in imperial legacies *along the administrative hierarchy*. On the contrary, many existing studies

do not take possible divergence between national, regional, and local institutions into account at all.

Why would it be relevant to pay attention to distinctions of imperial influences across the administrative hierarchy? The answer is simple: Because not doing so could obfuscate existing differences and bias our analyses. There are several examples of puzzling results that could be (better) explained by taking the levels of the administrative hierarchy into account. For instance, Levkin (2015) finds that there are no differences in “trust in bureaucracy” between the formerly Habsburg and formerly Ottoman parts of Romania. Yet attitudes towards public institutions, including the bureaucracy, could differ along the administrative hierarchy. This would explain the finding of Becker et al. (2016) that trust in two specific *regional* state institutions (courts and the police) does vary significantly across the Habsburg imperial borders.<sup>8</sup>

In short, we can no longer ignore potential variation in the impact of imperial rule on state institutions at different levels of the administrative hierarchy. Neglecting potential distinctions between the regional and the local levels could lead to an obfuscation of the true long-term effects of imperial rule.

As my review shows, both sets of the literature discussed above—on the internal development of autonomous countries as well as the influence of imperial powers—have excellent contributions, but could be advanced in a number of respects. Specifically, the literature on the emergence of modern bureaucracies in autonomous countries often neglects the active role of social groups in shaping bureaucratic organization and would benefit from the addition of a comparative study highlighting this dimension. Additionally, the literature on imperial legacies in public administration suffers from two key problems, specifically (1) high levels of unobserved heterogeneity

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<sup>8</sup>As touched upon earlier, the case of the United States, with potential colonial legacies of several imperial powers (Spain, England, and France), also illustrates possible variation in imperial influences along the administrative hierarchy.



in the units of analysis and (2) potential non-random assignment into treatment. Finally, the broader literature on colonial origins often aggregates data along the levels of the administrative hierarchy and many studies do not allow for a more fine-grained and precise analysis that differentiates national, regional, and/or local institutions. I seek to address all of these issues in my dissertation.

### **1.3 Core Theoretical Arguments: Social Groups and Empires—the Key Forces Behind the Design of the Administrative State**

In this section, I present my core theoretical arguments regarding how different bureaucratic institutional configurations came into existence. As with the literature review, it is necessary to differentiate between domestically autonomous countries on the one hand and countries that were subject to imperial rule on the other. The conditions between these two types of cases varied so fundamentally that distinct theoretical arguments about the impact of imperial rule need to be developed. Most importantly, the substantial influence of external actors on political-administrative institutions in a large number of colonies and externally ruled territories makes a theory of external influences more useful.

In the second chapter of the dissertation, I develop the following argument: With respect to politically autonomous countries, three socio-economic groups (or ‘social classes’) had a major impact on the design of bureaucratic systems. Those groups were the landed elites, the professional and entrepreneurial middle classes, and the working class. Because of vast differences in their social and economic conditions, each of these groups had unique interests in the organization of the state apparatus. Accordingly, their relative political power is crucial for explaining cross-national divergence in administrative institutions. The traditional or landed elites wanted to

maintain their privileged status in and access to the public administration. This goal constituted their preference for high levels of social selectivity and political control through non-democratic institutions. The middle classes were the strongest force for recruitment based on educational qualifications as they expected to succeed in such a merit-based system. Based on their historical experience with political control through the nobility and fearing future working-class domination, they also sought to shield the administration from political influence. Finally, because of their superiority in numbers, the working class aimed for high levels of political control through democratic institutions.

How did these preferences translate into different outcomes? When political power was concentrated in a single group, it would implement institutions in full accordance with its preferences. When two or more groups shared political power, they often had to make compromises with respect to the institutional design of the public administration. My case studies explore these arguments about social group preferences and class compromises in detail by analyzing multiple social constellations and how they affected the institutional design of bureaucracies in a number of countries.

The third chapter of my dissertation is more empirical than theoretical. The key argument is that past imperial rule affects present-day administrative organization. While this argument is straightforward and primarily requires a thorough empirical analysis, an important additional theoretical dimension of this chapter is the exploration of possible channels of inter-temporal transmission in bureaucratic organization. Specifically, my analysis in the third chapter suggests that regional variations in (1) culture, (2) the perceptions of public administration, and (3) social structures can account for persisting regional differences in administrative organization.

The most direct way in which culture can affect administrative organization is by shaping administrative culture, i.e. the norms, expectations, and behavioral patterns

of bureaucrats. Moreover, perceptions of the public administration can have an impact on the self-selection of applicants into administrative jobs. Finally, social structures can impact the structures of networks and the extent to which closed communities engage in favoritism. These arguments will be developed in more detail in the chapter itself and in the associated appendix.

In the fourth chapter, I develop a theory of imperial pervasiveness, aimed at explaining differences in the influence of empires at the regional and local levels of the administrative hierarchy. The core underlying assumption of the theoretical framework is that, when empires integrate territories into their core boundaries, (1) the imperial rulers seek to establish effective control<sup>9</sup> over them, while (2) the people in those territories prefer to gain autonomy<sup>10</sup> from the imperial center. As a consequence, they attempt to resist colonial control.

Given these diverging goals, two constraints that many empires are subject to predict a more effective imposition of institutions at higher levels of the administrative hierarchy. First, empires often experience financial pressures (Kennedy, 1988; Münkler, 2007, 47) that limit their flexibility with respect to investments in administrative institutions. Given these financial pressures, imperial rulers are likely to prioritize the funding of institutions that cover a wider area and a larger number of people, meaning those at higher administrative levels. Moreover, I make an argument that links social complexity, informational asymmetries, and local resistance to variations in the effectiveness of imperial institutions.<sup>11</sup> Specifically, I posit that organizational constraints and informational asymmetries most severely limit the ef-

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<sup>9</sup> *Effective control* is defined as the ability of the imperial center to implement and enforce laws.

<sup>10</sup> *Autonomy* is defined as the ability of the local population to implement and enforce its own laws.

<sup>11</sup> My argument is built upon the literatures on political-economic organization (Hayek, 1945; Rodrik, 2007, Ch. 5), empires (Münkler, 2007, 125-126), and principal-agent theory (McCubbins, 2014; McCubbins, Noll and Weingast, 1987).

fectiveness of centralized imperial rule with respect to lower administrative levels. These constraints on the effectiveness of external institutions also provide the local population an informational advantage when resisting against foreign rule, further inhibiting the goals of the imperial rulers in terms of controlling occupied territories. Accordingly, the effectiveness of imperial institutions decreases as we move down the administrative hierarchy.

In short, I have developed multiple theoretical frameworks to explain variation in bureaucratic institutions between and within countries. The theory in my second chapter applies to countries that enjoyed domestic political autonomy and primarily relies on socio-economic groups and how their interests translated into the design of administrative institutions. The third chapter has a stronger empirical focus, but it further explores specific theoretical mechanisms of path dependence that were established in the second chapter. The fourth chapter presents a theory of imperial pervasiveness, which is aimed at explaining differences in the quality of imperial rule along the administrative hierarchy. Now that the theoretical frameworks of the different chapters have been outlined, I proceed to the case selection.

## 1.4 Scope of the Investigation and Case Selection

The selection of cases differs from chapter to chapter.<sup>12</sup> Since the focus of the second chapter is on *cross-national* differences, case selection takes place at the national level. My main goal was to achieve variation in explanatory factors and account for bureaucratic variation in some of the most prominent cases. Considering the wide range of different possible class constellations, it is necessary to include a large number of countries with diverging socio-economic configurations. Because the theo-

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<sup>12</sup>On the general process of case selection, see also the contribution by Seawright and Gerring (2008).

retical scope is limited to countries that enjoyed domestic political autonomy in the 19th and early 20th centuries, case selection is also restricted to these countries.

The selected countries have a multitude of diverging constellations in the relative influence of social groups, ranging from the dominance by the middle classes (the Netherlands), to bargains with the nobility (UK, Germany), and even compromises involving the working class (such as the US). Among the cases that are analyzed, we also find the three core types of administrative systems: (1) high-control, low-meritocracy; (2) low-control, high-meritocracy; and (3) high-control, high-meritocracy bureaucracies.<sup>13</sup> They are represented by: (1) Italy with a bureaucracy of the first type; (2) the Netherlands with a bureaucracy of the second type; and (3) the United States with a bureaucracy of the third type.

The inclusion of Italy can also be justified by the fact that it appears to be a deviant case: Despite the presumed historical influence of the middle classes, it has a high-control, low-meritocracy bureaucratic system. This apparent contradiction will be analyzed more extensively in the second chapter. Moreover, considering the theoretical importance of class compromises, the US—which was historically characterized by significant influence of both the middle classes and the working class—also represents a crucial case for assessing the explanatory power of my framework.

Two European countries that are well-known for the intensity of social conflicts in the 19th century are also included: the UK and Germany. Considering my theoretical focus on social groups and conflicts of interest among them, these two typical cases are important to confirm the predictive power of the theory. Nuances in the relative political influence the aristocracy and middle classes between Germany and the UK also mean that this comparison can shed light on how small power differentials can affect bureaucratic outcomes. Finally, Russia is a special case because, after the 1917

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<sup>13</sup>These empirical configurations are discussed in more detail in chapter 2 (section 2.2).

revolution, there were no politically influential social groups left. Accordingly, this case is included to understand the consequences of such a special situation for which we have no directly applicable theoretical prediction.

It is important to note that cross-national studies—based on either qualitative (Raadschelders and Vigoda-Gadot, 2015, App. 1-2) or quantitative methods (Levine and Zervos, 1993)—suffer from a variety of potential problems and challenges. For instance, issues could arise in terms of unobserved heterogeneity (e.g., in cultural practices), in terms of identifying only spurious correlations, and/or in other aspects of the research. While I cannot completely rule out these problems, I hope that the combination of (1) the qualitative case studies, providing in-depth assessments of the development of specific national bureaucracies, and (2) the statistical analysis, offering a broad empirical test of the theoretical predictions, will be convincing to the reader.

Given the different scope of my research in the third and fourth chapters—focused on imperial influences on variation *within* countries—the population of countries to choose from was an entirely different one than that of the second chapter. For the later chapters, only countries that did *not* enjoy domestic political autonomy when the modern bureaucracy emerged can be considered. Which countries did I select for the analyses of these chapters and why?

To study imperial legacies, it would be ideal to identify a country that has been ruled by *multiple* imperial powers with *distinct* administrative systems at the time period when modern bureaucracies emerged. Moreover, it would be preferable to study the legacies of imperial rule under conditions that make it more difficult to identify such effects. For example, it would be ideal to study a country in which there have been attempts to remove or flatten out the long-term legacies of imperial rule. From a research design perspective, such a case is preferable because, if we can

find imperial legacies in such a ‘hard test’ case, it is likely that we would find them under more favorable conditions as well. This would be positive for the external validity and applicability of the findings.

In light of the above criteria, Poland is an ideal setting for exploring imperial legacies in bureaucratic systems because its present-day territory was divided among three empires that had vastly different public administrations. Moreover, the quasi-randomness of the imperial borders is supported by multiple studies (Becker et al., 2016; Bukowski, 2019; Grosfeld and Zhuravskaya, 2015), which allows for the use of a geographic regression discontinuity design (RDD). The period of foreign rule also includes the years 1850-1918, which is the crucial time period for the development of modern bureaucracies as studies on civil service systems (Raadschelders and Rutgers, 1996) and bureaucratic organization (Carpenter, 2001) show.

Furthermore, given the desirability of a ‘hard test’ case, Poland is a strong candidate for an empirical test: The attempts of the communist regime (1948-1989) to homogenize the country through repression and control make the country an appropriate setting to assess colonial-legacy arguments under difficult conditions (Hoensch, 1990, esp. 308-310; Lukowski and Zawadzki, 2006, Ch. 7; Prazmowska, 2011, esp. 196-199, 210).

Finally, in order to test my framework of imperial pervasiveness, it is necessary to look at a country that was partially independent and partially under the control of a foreign power. This is desirable because I aim to study the constraints on imperial rulers in comparison with areas in which domestic rulers did *not* experience similar constraints. For such an endeavor, Romania is an ideal case because throughout the 19th and 20th centuries, the territories of present-day Romania were partially ruled by the Habsburg Empire and partially independent. Transylvania (a region of present-day Romania) was ruled by the Austrian state between 1687 and 1866.

Afterwards, between 1867 and 1918, it was ruled by the Hungarian state—as a part of the Austro-Hungarian Empire. Moreover, Wallachia and Moldavia, which were the other main parts of the Romanian nation, formed the Kingdom of Romania in 1866. In the subsequent decades, this independent Romanian state developed an early modern bureaucracy and legal system. Additionally, from a research design point of view, the primarily military rationale of the border placement makes it possible to use a geographic RDD (Becker et al., 2016; Levkin, 2015).

Moreover, similar to the Polish case, the Romanian communist regime aimed for the homogenization and unification of the country (Bădescu and Sum, 2005, 118; Hitchins, 2014, Ch. 6), which makes finding imperial legacies more challenging. Because this is heavily working against the researcher, it makes the Romanian case an appropriate setting for an empirical test, too.

To summarize, the case selection in my three substantive chapters (i.e., chapters 2-4) was guided by different rationales, depending on the research question. With respect to the second chapter, based on a the goal of a broadly applicable comparative theory of bureaucratic organization, case selection was meant to maximize variation in social constellations and account for divergence in bureaucratic institutions in some of the most relevant and prominent country cases. It also included two typical cases to study the respective causal mechanisms in detail. Moreover, the case of Russia is included to investigate the effects of an absence of social group influence. The two country cases considering imperial legacies were chosen based on a different set of factors. First, these countries needed to be ruled by external powers when modern bureaucracies emerged. Second, ideally, there would have been attempts to remove imperial legacies, such that these cases represent ‘hard tests.’ As elaborated above, further criteria for the specific choice depended on the respective research question.



## 1.5 Research Methods

Now that I have outlined both theory and case selection, I will select the appropriate research methods. I use five primary research methods in my dissertation: case studies, cross-sectional empirical analyses, historical analyses, empirical analysis based on RDDs, and empirical analyses based on genetic matching.

To test my theory about the influence of social groups, I decided to use a combination of case studies and cross-sectional empirical analyses. The main strength of the method of case studies is that they allow me to validate the theoretical claims about group preferences and verify that social groups were a driving force behind institutional reforms of bureaucracies. Accordingly, the case studies are meant to assess in detail whether social groups really had the suggested interests and also implemented them through bureaucratic reforms. Moreover, since my theoretical argument links the relative strength of social groups to specific institutional outcomes, but is silent on the specific *strategies* social groups pursue in order to achieve these outcomes, case studies can also be used to explore specific mechanisms linking social-group interests to institutional outcomes (Gerring, 2006). In short, my case studies will generally assess the relative political power of social groups and then consider in detail both the goals and strategies these groups used to implement their ideal visions of the administrative state.

In addition to these case studies, I use multiple cross-sectional regressions to check if the predictions of the theory broadly apply to a large number of countries that enjoyed domestic political autonomy. The combination of detailed information from the case studies about social-group goals and strategies and the evidence from the regressions could provide strong support for the theoretical claims.

In the two chapters on the long-term effects of past imperial rule, I begin with

historical analyses that cover the character and implementation of administrative institutions by the respective empires. In these sections, I analyze in detail which kinds of institutions the empires implemented and how this affected the local populations—the latter also is crucial for the mechanisms of inter-temporal persistence.

Rather than the concrete conditions on the ground, a combination of historical accidents, military opportunism, and overall balance-of-power considerations were key determinants of historical border placements in the cases of both Poland and Romania. Therefore, I treat these borders as quasi-random from the perspective of this inquiry focused on social and bureaucratic organization. The assumption of quasi-randomness allows for the application of a geographic RDD.

Regression discontinuity designs make use of ‘quasi-randomly’ assigned cutoffs in treatment conditions (Imbens and Lemieux, 2008; Lalive, 2008). In the case of a *geographic* regression discontinuity design, units of analysis that are close to the geographic boundaries separating different historical (quasi-)‘treatment’ conditions, are considered to be most similar in terms of (unobserved) underlying characteristics, making their comparison most useful from a research design perspective (Keele and Titiunik, 2015). In both the third and the fourth chapters, partially as a response to potential problems with spillovers across the borders, I also use (genetic) matching as an additional method of accounting for confounding factors (Diamond and Sekhon, 2013).

In short, in this dissertation, I rely on a combination of qualitative and quantitative research methods to study the historical implementation and the long-term persistence of bureaucratic organization. In the individual chapters and their respective appendices, I will provide comprehensive additional justification for the chosen research designs.

## 1.6 Preview of the Findings of Chapter Two

My case studies of six different countries (the UK, Germany, the Netherlands, Italy, the US, and Russia) demonstrate that social groups had significant influence on the design of early bureaucratic structures. Multiple cases confirm the theoretical predictions. First, the traditional or landed elites aimed at defending their privileges with respect to the public administration. This is especially visible in the case of Italy, where they had substantial informal political influence. They attempted to increase the influence of non-democratic political institutions on appointments, and to maintain social selectivity and privileged access in recruitment. Second, the case studies also show that the middle classes fought for low levels of political control and a meritocratic recruitment system. This can be seen most clearly in the cases of the Netherlands and the United Kingdom. While the influence of the working class is only visible in a small number of countries, I find that its representatives generally aimed at strengthening the political control of democratic institutions and removing barriers to entry in recruitment procedures.

Moreover, the case studies also show several examples of class compromises, in which a coalition of two socio-economic groups established a system that met their individual interests to some extent. For instance, in Germany, a coalition of the nobility (which controlled the executive) and the middle classes (which had a parliamentary majority in the formative years) created a bureaucratic system that was characterized by high levels of meritocracy and intermediary levels of control (through non-democratic institutions), also systematically excluding working-class members.

Only the case of Russia presents an interesting deviation from the general pattern of class influence: The absence of strong social groups led to a bureaucracy under

full control of Communist Party elites.<sup>14</sup> In this extraordinary case, the social power ‘vacuum’ caused by the absence of strong classes increased both the incentives and the ability of the political leadership to establish a high-control, low-meritocracy bureaucratic system.

The cross-sectional regressions broadly confirm the theory for a large number of cases. They show that in countries in which the traditional elites were able to make unilateral political decisions, the level of meritocracy is relatively low and the level of political control relatively high. Additional cross-sectional regressions in the chapter’s appendix that use a proxy of middle-class historical influence show that, in countries with historically strong middle classes, there is a high level of meritocracy and a low level of political control.

Finally, through my case studies, I find a wide range of mechanisms through which social groups pushed for their interests. Strategies used by social groups to achieve their goal of shaping the administrative state include: (1) formal legislation; (2) informal political influence through social networks; (3) combinations of non-governmental organizations (lobby groups) and parties; (4) direct control of the state by a single social group; and (5) terror and intimidation (in the case of Russia).<sup>15</sup> Therefore, my case studies demonstrate that there were many different mechanisms through which social groups created modern administrative systems in accordance with their interests.

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<sup>14</sup>I will elaborate on this issue in more detail in the respective case study in chapter 2 (section 2.4).

<sup>15</sup>While my case studies (section 2.4) show that only groups with some degree of organizational coherence were able to effectively shape the structures of the public administration (as there are no cases which show otherwise), in the future it would be interesting to explore in more detail if citizen complaints (without an organizational entity behind them) had an impact on public service delivery or bureaucratic organization.

## 1.7 Preview of the Findings of Chapter Three

The third chapter begins with an in-depth analysis of the historical case of Poland. In this initial historical analysis, I compare the characteristics of the Prussian, Russian, and Austrian administrative systems. First, the Prussian administrative state was based on a rigorous legal framework and characterized by high levels of efficiency and meritocracy. Similarly, the Habsburg bureaucracy was also relatively efficient, with a modern career system and meritocratic recruitment. In contrast to the Prussian administration, however, it allowed for higher levels of decentralization and autonomous administration by the Poles. Finally, in the Russian administration, both social selectivity and patronage were much more predominant than in the Prussian and Austrian bureaucracies. This led to a significantly higher level of corruption and lower level of administrative efficiency.

In the empirical test, I rely on a survey of approximately 650 local public administrations and use various methods—including RD analyses and matching—to show that the historical differences still shape several aspects of present-day bureaucratic organization. I generally find that communes from the formerly Russian parts of Poland perform worst on multiple dimensions of bureaucratic organization. They are less efficient in terms of their relative size, have fewer applicants per job, and advertise their open positions through fewer channels than either the formerly Prussian or the Austrian communes. I also find some—but not conclusive—evidence that Austrian communes are the most efficient in terms of their relative size (even when compared to Prussia), which provides (limited) support to the notion that administrative decentralization can result in long-term efficiency gains for bureaucratic systems.

With respect to the specific channels of inter-temporal transmission, two specific channels receive the most support. First, the inter-generational transmission of cul-

tural values—which were historically imposed by the public administrations of the three powers—could have an impact on administrative norms and behavior. Second, historically formed attitudes towards and perceptions of the state may influence the relationship of individuals with public authorities. These two mechanisms can explain the persistently worse performance of bureaucracies in Poland’s east.

## 1.8 Preview of the Findings of Chapter Four

Similar to chapter three, the fourth chapter begins with a comprehensive historical analysis. In this case, I look in detail at the bureaucratic institutions of the Habsburg Empire that were imposed on Transylvania. I show that, in addition to informational and organizational issues of administrative control, there were significant tensions with and resistance by the local population, which likely reduced the effectiveness of administrative institutions at the local level. My historical analysis also covers the independent parts of Romania, which developed a modern bureaucracy as of the second half of the 19th century.

To test if there is a differential long-term impact of imperial rule on regional and local administrative institutions, I conducted a survey with 1,001 Romanian citizens. Through a comprehensive empirical analysis, primarily based on geographic regression discontinuity analyses and genetic matching, I find that trust in courts (which exist at the county and higher regional levels) is significantly greater in the formerly Habsburg parts. Furthermore, wait times at regional-level bureaucratic institutions are significantly shorter in most specifications, indicating an overall positive legacy of Habsburg rule. However, at the local level, I find that the legacy of the Habsburg Empire is either non-existent or negative, with significantly longer wait times and higher levels of corruption. This indicates that the impacts of foreign rule differ substantially between the regional and the local level.

My study of Romania also shows that a complex set of perceptions of the state, social memory, and culture could be responsible for persistent differences in socialization, attitudes towards public institutions, and the real behavior of bureaucrats. The reasons for the path dependence in bureaucratic organization are thus comparable to the Polish case.

## Chapter 2

# The Emergence of Modern Administrative Organizations: How Socio-Economic Classes Shaped Early Bureaucracies

### 2.1 Introduction

Public bureaucracies are essential for the functioning of states—they are the primary tool for implementing policies and thus crucial for governing (Geddes, 1994, 138; Ingraham, 1995, xxii; Vogler, 2019).<sup>1</sup> Despite the bureaucracy's importance for the stability of political systems and the capacity of rulers to govern, its organization and performance vary markedly across countries (Dahlström et al., 2015*b*; Dahlström and Lapuente, 2017; Peters, 2001).<sup>2</sup> Interestingly, this significant variation in institutional structures is contrary to Max Weber's prediction of a relatively uniform rationalization process based on the principles of specialization, hierarchy, and meritocracy. While most countries are converging on a bureaucratic structure that shows high levels of vertical and horizontal administrative differentiation, vast differences remain in their functioning. In particular, variation can be observed in internal procedures, recruitment patterns, levels of centralization, and executive-bureaucracy relations. Following Weber's work, however, we might expect the public administrations of advanced industrialized countries to be more institutionally homogeneous than they are, especially in terms of merit recruitment (Olsen, 2006; Olsen, 2008;

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<sup>1</sup>Furthermore, for the independent influence of bureaucrats and bureaucracies on the policy-making process, see Workman (2015).

<sup>2</sup>For a cross-country overview of the occurrence of patronage, including in the public sector, see also Kopecký, Mair and Spirova (2012).



Silberman, 1993, ix; Weber, 1978, Ch. 11). What explains the observed variation in bureaucratic organization?

Scholars of political science, history, and public administration have found that bureaucracies are characterized by a high level of path dependence. Institutions that were locked in historically often persist well into the present. The 19th and early 20th centuries are widely considered the critical time period for the emergence of modern bureaucracies and persisting differences between them (Mann, 1993, Ch. 11-14; Raadschelders and Rutgers, 1996; Raphael, 2000, 34-35; Silberman, 1993).<sup>3</sup> Considering the intensity of political conflicts at this time, it is puzzling that almost no scholars in political science have put social groups at the center of their analysis of how different bureaucracies emerged.

Yet there is evidence that social groups have had significant influence on state structures. For example, Acemoglu and Robinson (2005) and Ansell and Samuels (2014) show that the relative strength of social groups had decisive influence on the design of political institutions. Similarly, Korpi (2006) argues that social groups have shaped the welfare state. Therefore, the main questions addressed here are: What explains variation in bureaucratic institutions and characteristics across countries, specifically with respect to the meritocracy in recruitment and the level of political control? How did social groups historically shape those aspects of the public administration and is their influence still visible in the present day?

The argument presented in this chapter is that three groups had a major impact on the design of bureaucratic systems: The landed elites, the middle class, and the

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<sup>3</sup>See also Goetz (2011, 47), Wunder (1986, Ch. 4), North, Wallis and Weingast (2009, 220), Tocqueville (2011), and Becker et al. (2016). For the period prior to the 19th century, the literature on the early formation of states offers important insights. For example, Tilly (1990) explores the military drivers of state building, differentiating between capital-based and coercion-based state development. Ertman (1997) considers the *timing* of state development and claims that late developers had advantages in building a proto-modern bureaucracy.

working class each had unique interests in the organization of the state and their relative power is crucial for explaining cross-national divergence in administrative institutions. The traditional or landed elites wanted to maintain their privileged status in and access to the public administration. Thus, they were aiming for high levels of social selectivity and political control through non-democratic institutions. The middle classes were the strongest force for recruitment based on educational qualifications as they expected to succeed in such a merit-based system. Based on their historical experience with political control through the nobility and fearing future working-class domination, the middle classes wanted to shield the administration from political influence. Finally, the working class aimed for high levels of political control through democratic institutions. When political power was concentrated in a single group, it would implement institutions in full accordance with its preferences. When two or more groups shared political power, they often had to make compromises with respect to the institutional design of the public administration.

This chapter is structured as follows. First, two important dimensions of bureaucratic organization—political control and meritocracy in recruitment—are identified. Then, their complex interaction is discussed. After a brief literature review, a theory based on the historical influence of social groups is introduced. To validate the theoretical claims about social-group preferences and influence, six case studies—covering a wide range of different settings and socio-economic constellations—are presented. Subsequently, a cross-sectional empirical analysis assesses if the articulated hypotheses can be confirmed for a larger set of countries. After the conclusion, I present additional empirical results in the chapter’s appendix (section 6.1).

## 2.2 Puzzle and Literature Review

Cross-national variation in two important dimensions of bureaucratic organiza-

tion cannot be fully explained by the current literature. One of these dimensions is the level of ‘meritocracy in recruitment,’ which can be defined as the selection of candidates based on their qualifications and education, i.e. their preparedness for the job, rather than other aspects. This is an important factor of bureaucratic organization because meritocracy reduces corruption and increases both business entry and economic growth rates (Dahlström and Lapuente, 2017; Dahlström, Lapuente and Teorell, 2012; Evans and Rauch, 1999; Nistotskaya and Cingolani, 2016).<sup>4</sup> A meritocratic system can be undermined through (1) social selectivity or (2) patronage.

Moreover, various contributions to the literature deal with the level of political control that bureaucracies are subject to—a factor that is relevant for both normative and empirical reasons. The means for political control include budget constraints, administrative law, and passing highly specific bills. These mechanisms and the principal-agent problem in general have been investigated in much detail (Calvert, McCubbins and Weingast, 1989; Clinton, Lewis and Selin, 2014; Epstein and O’Halloran, 1994; Gailmard and Patty, 2007; Gailmard and Patty, 2012; Huber and Shipan, 2002; McCubbins, Noll and Weingast, 1987; McCubbins and Schwartz, 1984; McCubbins, Noll and Weingast, 1989; Tullock, 2005; Van der Meer, 2009).<sup>5</sup> However, the most direct way in which politicians can control bureaucracies is through political appointments and dismissals (Wood and Waterman, 1991), which potentially also enable patronage and could undermine bureaucratic competence (Gallo and Lewis, 2012; Gilmour and Lewis, 2006; Hollibaugh, Horton and Lewis, 2014; Lewis, 2009). Thus, here I define ‘political control’ as the extent to which political

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<sup>4</sup>As touched upon in the case studies (section 2.4), the potential impact of meritocracy in terms of reducing corruption was already suspected/known in the 19th century and contributed to bureaucratic reforms.

<sup>5</sup>There are disagreements about the precise effect of political control on bureaucratic efficiency, but there is a general agreement that it matters. See, for instance, Krause, Lewis and Douglas (2006).

principals can hire and fire the occupants of (higher) civil service offices.

The level of meritocracy and the degree of political control are not the only characteristics of bureaucratic organization that have an impact on administrative performance. Yet both these dimensions have received significant attention by scholars of public bureaucracies and they are related to each other. Therefore, remarkable cross-national variation in both characteristics is an important phenomenon demanding an explanation.

Specifically, there is an interaction between the extent of appointments and the meritocracy in recruitment, as patronage—potentially enabled by appointments—can undermine meritocracy (Geddes, 1994, Ch. 6). However, there is not a perfect linearity between these dimensions. Hybrid systems exist, combining many appointments with high meritocracy in recruitment at *different levels* of the administration. An example of such a system would be the United States (Peters, 2004, 126). Moreover, even with the same number of political appointments and dismissals, bureaucracies can potentially have very different educational requirements, difficulty of examinations, and levels of social selectivity. Thus, while there is a relationship between meritocracy and political control, it is not a perfectly linear one. The fact that these two characteristics *interact* but are simultaneously *not perfectly aligned* (as also shown in Figure 2.1 below) makes it necessary to treat them jointly instead of lumping them together in a single dimension or ignoring one of them.

Accordingly, two issues in bureaucratic organization are at the center of my theory. First, the extent of political appointments and dismissals, especially at higher levels. Second, the level of meritocracy in recruitment for the remaining civil servants. The analysis will focus on central government institutions but also take other developments into account.<sup>6</sup>

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<sup>6</sup>The organization of the central government bureaucracy often heavily influences decentralized

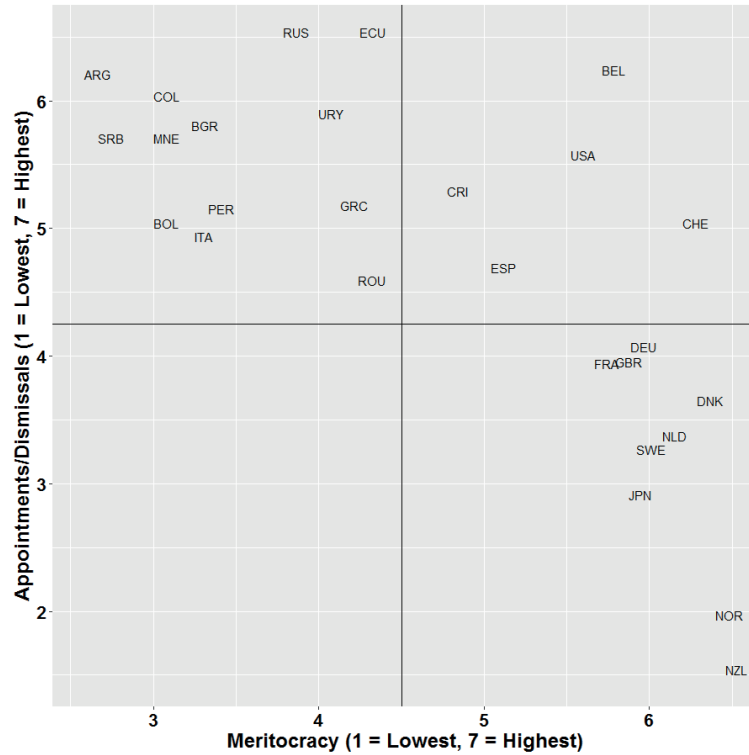
The organization of bureaucracies in each dimension varies significantly (Dahlström, 2009; Dahlström, Lapuente and Teorell, 2012). Figure 2.1 shows estimates from expert surveys conducted by the Quality of Government (QoG) Institute for variation in both factors across a total of 27 countries that enjoyed domestic political autonomy in the early 20th century (Dahlström et al., 2015*b*).<sup>7</sup> Countries that did not enjoy domestic political autonomy at this time cannot be considered in this chapter as external factors may have a significant impact on their bureaucratic organization. Even though most countries formally have meritocratic recruitment systems, factual variation in meritocracy is significant, making the expert estimates a more reliable measurement than an exclusive analysis of formal institutions (cf. Dahlström and Lapuente, 2017, 14). Data by the QoG Institute generally correspond with other classifications of public administrations (Kopecký, Mair and Spirova, 2012; Müller, 2000; Müller, 2006).

The graph is based on expert estimates of two statements. With respect to the level of meritocracy, experts were asked to rate the frequency/likelihood of the following statements: “When recruiting public sector employees, the skills and merits of the applicants decide who gets the job.” With respect to the level of political control, they were asked to rate the following: “The top political leadership hires and fires senior public officials” (Dahlström et al., 2015*b*, 8-9). As the measurements of meritocracy and political control are continuous, defining scope conditions for categories is somewhat arbitrary. However, while acknowledging that there are further nuances, we can generally differentiate three types of administrative systems in Figure 2.1: (1) low-meritocracy, high-control systems in the upper left corner; (2) high-meritocracy, high-control systems in the upper right corner; and (3) high-meritocracy, low-control

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structures (Raphael, 2000, 76-77).

<sup>7</sup>The labels are based on ISO 3166-1 alpha-3 codes.



**Figure 2.1:** Scatterplot: Meritocracy and Political Control

systems in the lower right corner.

While the current literature on the emergence of modern bureaucracies includes many excellent studies, it has three weak spots with respect to explaining the above variation. First and most importantly, many studies do not pay attention to either meritocracy, political control, or the interaction of those dimensions by ignoring one or both. For example, Silberman (1993) presents a rigorous cross-country study of public bureaucracies, differentiating between organizational and professional systems. In this classification scheme, organizational bureaucracies have strict hierarchies, well-defined career paths, and more coherent organizational cultures while professional bureaucracies have more horizontal structures, less strong organizational cultures, and rely more on external expertise. He identifies uncertainty about leadership succession as the key explanatory factor. However, his scheme does not distinguish

between different levels of meritocracy as it can be high or low under both systems.<sup>8</sup>

Second, despite overwhelming evidence that social groups shaped public institutions (Acemoglu and Robinson, 2005; Ansell and Samuels, 2014; Korpi, 2006), with some notable exceptions (Tolbert and Zucker, 1983), most existing studies do not explicitly theorize about the *active and significant role* social groups played in terms of bureaucratic reform. For example, Hollyer (2011) argues that governments introduce meritocratic recruitment when the opportunity costs of not doing so increase due to a rising number of highly educated citizens.<sup>9</sup> This explanation treats highly educated citizens as passive actors while there is a large body of historical evidence showing that the professional middle class often was a driving force in reforming bureaucracies (see section 2.4).<sup>10</sup>

Third, there are many excellent studies on the long-term impact of historical developments on public bureaucracies, but they are often focused on a single case. This limits their potential for explaining cross-country variation (Carpenter, 2001; Skowronek, 1982). For example, political competition between the executive and the legislative branch of government in the US may have affected the speed and extent of the removal of patronage policies (Johnson and Libecap, 1994). However, this explanation is restricted to presidential political systems with a substantial institutional independence between legislative and executive branch. Moreover, Tolbert and Zucker (1983) investigate the determinants of civil service reform in American cities and discuss the potential impact of the strength of the migrant working-class

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<sup>8</sup>This is also true for Hollyer (2011) because he uses a relatively simple dichotomous variable to measure meritocracy in recruitment.

<sup>9</sup>It is important to note that, although their numbers were going up, citizens with a university degree remained a tiny fraction of the overall population in most cases.

<sup>10</sup>Also, Gorski (2003) explains some aspects of the modern bureaucratic state through the long-term impact of the Reformation, arguing against a focus on military developments and political revolutions.

and the middle classes on reform speed. Yet their analysis is limited to American cities and therefore does not speak to national-level institutions or dynamics in other countries. Similarly, the analyses of Grindle (2012) and Kurtz (2013) are focused on Latin America, and some aspects of their theoretical contributions are focused on the period when Latin American states gained independence, which does not apply to autonomous European countries.

The work of Shefter (1994) comes closest to my approach. He presents a study of political mobilization strategies and differentiates between externally and internally mobilized parties. The strategy chosen depends on the sequence of bureaucratization versus democratization. Despite the importance of his work and his partial focus on the middle classes as an important force for bureaucratic autonomy, Shefter concentrates on party strategies (which may vary between parties in the same system) and he does not primarily address the institutional framework that governs meritocracy and political control.

The perspective of Kurtz (2009) on the effects of intra-elite competition on state capacity should also be mentioned here: He explores the impact of elite configurations on state capacity. His work differs from mine in two crucial ways. First, he places most emphasis on agrarian elites and does not treat the industrial and professional middle classes as key actors in the state-building process. Second, his dependent variable is the overall strength and centralization of coercive authority, which is different from my focus on two specific dimensions of bureaucratic organization.

In addition to research on modern bureaucracies, we might also consider accounts of early state formation in Europe and beyond. The work by Tilly (1990) on different modes of state building—based on coercion or capital—is of great importance for understanding the centrality of military rivalry to the emergence of the territorial



state.<sup>11</sup> In which ways does my account differ from Tilly's? He primarily focuses on military rivalries as a driver of state building. Yet the time period with the greatest advancements in the formation of modern bureaucracies (1815-1914) was characterized by the *relative* absence of inter-state armed conflict among European powers (which were the first to develop modern bureaucracies). Additionally, Tilly's perspective is centered on the actions of the ruler, not on social groups as the key actors behind administrative reforms.<sup>12</sup>

Similarly, Ertman (1997) provides important insights into early state formation. While he suggests that the representation of social group interests had a decisive impact on the *form of government* (absolute versus constitutional monarchy), he does not consider it the key determinant when it comes to the development of patrimonial versus proto-modern bureaucratic states.<sup>13</sup> He primarily attributes changes in the latter dimension to temporal factors, with late developers being more likely to develop proto-modern institutions due to changing conditions (in education and finance) and 'latecomer advantages.' Even though he attributes some importance to representative assemblies, he does not theoretically differentiate further which groups may be represented in such assemblies and how each of them specifically impacts the state formation process.

To summarize, while it consists of many excellent contributions, the existing literature on the emergence of public bureaucracies cannot fully account for the variation and complex interaction of meritocracy and political control discussed above. Many studies only consider one of the two dimensions and thereby ignore their non-linear re-

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<sup>11</sup>See also further contributions on this issue by Tilly (1975) and Saylor and Wheeler (2017).

<sup>12</sup>However, within his ruler-centered approach, Tilly (1990) does indeed show that different bargains with subjects may be struck based on local socio-economic conditions.

<sup>13</sup>With the term 'proto-modern bureaucracy,' Ertman (1997, 9) refers to an administrative system that has "hierarchically organized infrastructures manned by highly educated officials without any proprietary claims to their positions..."

relationship. Furthermore, several accounts disregard the active role that social groups played in the formation of the state apparatus. A large number of contributions primarily refer to the American historical context and often have reduced explanatory power when applied to systems with fundamentally different institutional characteristics. Finally, the literature on early state building has a strong focus on military conflict, which can hardly explain the massive expansion of state apparatuses in the period from 1815 to 1914 that was characterized by the relative absence of inter-state armed conflict in Europe. Existing studies also either do not attribute an active role to social groups or do not differentiate further between various groups and their distinct interests.

## 2.3 Theory

Even though early modern bureaucracies<sup>14</sup> already emerged in the late 18th and early 19th centuries in Prussia and Austria, they were (1) focused on the military domain, (2) geographically limited, and (3) far from the endpoint of the critical emergence period.<sup>15</sup> In most countries, massive qualitative and quantitative transformations in the 19th and early 20th centuries shaped the administrative state far more than any preceding developments (Doyle, 1992, Ch. 11; Fischer and Lundgreen, 1975, 462; Hintze, 1975; Mann, 1993, Ch. 13; Raadschelders and Rutgers, 1996). Indeed, modern bureaucracies were sharply different from previous types of administrations, which means prior developments are relatively negligible for this analysis (Raphael, 2000, 12).

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<sup>14</sup>The term ‘early modern bureaucracy’ implies that these administrative systems had some features that resembled modern bureaucracies, such as the separation of office and officeholder. However, many aspects of their institutional organization remained recognizably different from the ideal type laid out by Weber (1978, Ch. 11), which means that they cannot be considered ‘full’ modern bureaucracies yet.

<sup>15</sup>For an analysis of this earlier time period (1780-1820), see Raadschelders (2015).

It is widely accepted in the literature on administrative history that bureaucracies exhibit high levels of path dependence in their institutional characteristics. Accordingly, we need to understand their origins to explain differences in their present-day organization (Carpenter, 2001; Painter and Peters, 2010*b*; Raadschelders and Rutgers, 1996; Silberman, 1993).<sup>16</sup> There is a large body of literature investigating path dependence in bureaucracies and other social institutions (David, 1994; Greif, 1998, 2006; Mahoney, 2000; Raadschelders, 1998). Based on the literature as well as the detailed discussion of the drivers of inter-temporal stability below, I will make the *assumption* of path dependence but also critically assess this assumption in each of the case studies.

The period of interest was one of intense conflict between different socio-economic groups (Ansell and Samuels, 2014; Mommsen, 1969). A rising middle class fought for a liberal political-economic order, landed elites defended their traditional privileges, and the working class aimed for capturing and reshaping state institutions. Using three groups is a simplification, but it is analytically useful and appropriate for a time when these groups were more homogeneous than at any time afterwards.<sup>17</sup> Acemoglu and Robinson (2005, 16) justify this simplification through *Occam's Razor*, which requires reduction to analytically essential categories. Even though there was internal disagreement within these groups, the intensity of external conflict typically overshadowed it.<sup>18</sup> The three groups also indirectly incorporate several social movements of the time, such as the labor movement. However, the scheme cannot account for all case-specific deviations—a disadvantage that must be accepted when

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<sup>16</sup>For similar approaches, see studies by Acemoglu, Johnson and Robinson (2001) and Nunn (2008).

<sup>17</sup>Similar approaches are often used in political economy (Iversen and Soskice, 2006). Moore (1974) also uses the same classification scheme for social groups.

<sup>18</sup>In the conclusion (chapter 5), I elaborate how my simplification and de-emphasizing of internal heterogeneity could be a point of departure for future studies.

developing a general theory applicable to a large number of countries.

Finally, it is important to note that civil servants themselves may be associated with any of these three groups. Even after they become bureaucrats, their respective socio-economic backgrounds and networks likely still shape their preferences regarding the public administration (cf. Vogler, 2019).<sup>19</sup> Accordingly, civil servants cannot be associated with any particular class per se—their socio-economic association must be determined on a case-by-case basis.

### 2.3.1 Traditional and Landed Elites

The traditional elites, i.e. citizens who either had birthright privileges and/or largely derived their income from agriculture, typically were the most advantaged group in society. They often used their privileges to slow down socio-economic changes, which they anticipated would erode their economic base (Acemoglu and Robinson, 2006). A slow but steady decline in income and status throughout much of the 19th century (Moore, 1974, 31-32; Wehler, 1994, 14) made many land owners interested in alternative occupations in the state apparatus (Gillis, 1968, 111; Mooers, 1991, 121; Shefter, 1994, 52-53). Additionally, their younger sons, who often did not inherit any land, also needed a source of income (Bendix, 1978, 237). Thus, the key interest of traditional elites was the maintenance of a bureaucracy that largely excluded other groups, meaning the highest possible level of social selectivity and low levels of meritocracy.<sup>20</sup> When forced to make a compromise, they would try to achieve the highest level of social selectivity possible in a *formally* meritocratic system.

Moreover, the landed elites were also interested in high levels of political control

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<sup>19</sup>This can be observed in some of the case studies (section 2.4).

<sup>20</sup>For an example of the nobility's preferential access to positions in the administrative state, see Wehler (1994, 88-89).

through non-democratic institutions, which they dominated, and attempted to shield the bureaucracy from parliamentary and democratic influence (Klimó, 1997, 16-17).

Based on this discussion and the assumption of path dependence, we can derive two hypotheses.

**Hypothesis 1:** In countries where the traditional/landed elites historically had more political influence, we expect lower present-day levels of meritocracy.

**Hypothesis 2:** In countries where the traditional/landed elites historically had more political influence, we expect higher present-day levels of political appointments and dismissals.

### 2.3.2 The Middle Class(es)

The middle classes, consisting of professionals and entrepreneurs, were interested in administrative reform for multiple reasons. As economic and social climbers, they were no longer willing to accept a low level of representation in the state apparatus. Furthermore, the bureaucracy was often seen as a tool of other groups, working against their interests (Kingsley, 1944; Rürup, 1992, 159-160). The *professional* middle class wanted competitive entry for two reasons. First, as the best-educated members of society, they would have the greatest chances of success. Second, both professional and entrepreneurial middle-class members often had to rely on state services for their occupational activities and thus suffered if public servants were incompetent (Skowronek, 1982, 51-52).

Similarly, the *entrepreneurial* middle class, fearing rising taxes through bureaucratic incompetence, corruption, and inefficiency, also had a strong interest in meritocracy. In the 19th century, states typically generated most of their income from tariffs, but they often imposed additional taxes on the population (Dincecco, 2009; Justman and Gradstein, 1999, 119; Webber and Wildavsky, 1986). The middle

classes opposed high tax rates, which may be seen as an indirect form of expropriation if caused by inefficient or corrupt bureaucracies (Ansell and Samuels, 2014, 39-41; Chan, 2001, 98-99). Accordingly, the highest priority for them in terms of bureaucratic organization was a meritocratic recruitment system.

Furthermore, both the historical experience of control by the landed elites and the anticipation of possible (democratic) control by the working class—likely associated with the implementation of economic policies against middle-class interests—made the middle classes invested in achieving bureaucratic impartiality. When political actors anticipate that other groups may gain power, they will create a system that prevents future partisan use (Moe, 1989, 274). Although there is no direct linear relationship (see section 2.2), high levels of meritocracy generally put some limits on political control. For both reasons, the middle classes generally pushed for a system with the lowest possible level of control.

Based on this discussion and the assumption of path dependence, we can derive two hypotheses.

**Hypothesis 3:** In countries where the middle classes historically had more political influence, we expect higher present-day levels of meritocracy.

**Hypothesis 4:** In countries where the middle classes historically had more political influence, we expect lower present-day levels of political appointments and dismissals.

### 2.3.3 The Urban Working Class

The working-class ideology of socialism called for state interventions in the economy and ultimately the capturing and reshaping of political institutions (often referred to as the ‘dictatorship of the proletariat’) to enable the redistribution of capital and other key policy goals of the working class (Hattam, 1992, 158; Schumpeter,

2006, Ch. 20; Torstendahl, 1991, 107; Wright, 1982, 340).<sup>21</sup> To achieve this goal, the working class primarily needed a high level of political control of the bureaucracy through democratic institutions. Its representatives would seek such control even when some non-democratic institutions existed in parallel.

Additionally, as many workers faced poor working conditions in private industries, the working class was in favor of an open recruitment system with no mechanisms of social selectivity, potentially increasing meritocracy. However, due to their generally low formal education and difficult socio-economic conditions (Smelser, 1991; Wehler, 1994, 88-89), many working-class members were also interested in low educational requirements and the removal of barriers to entry (Hoffmann, 1972, Ch. 1). Accordingly, there was some ambiguity in working-class interests—they wanted both lower educational requirements, reducing meritocracy, and open recruitment, increasing meritocracy. This means that the effect of working-class influence on meritocracy is ambiguous.

Based on this discussion and the assumption of path dependence, we can derive one hypothesis.

**Hypothesis 5:** In countries where the working class historically had more political influence, we expect higher present-day levels of political appointments and dismissals.

### 2.3.4 Mechanisms of Influence and Single-Group Dominance versus Political Compromises

How do these preferences translate into the design of administrative institutions? Considering the different visions the three groups had for the administrative state, their respective *political influence* was a key factor in shaping the modern bureau-

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<sup>21</sup>See also Przeworski (1977, 349-350).

cracy.<sup>22</sup> Political influence is defined here as the *ability to alter policies via formal and informal channels*. For instance, both the occupation of formal political offices and the ability to informally put pressure on elected officials through money or threats of violence would be channels of influence. Given the goal of generalizability, this theory is not limited to any particular form of promoting political interests. For example, if I only considered a specific mechanism of political influence—such as formal party organizations—I would likely reduce the theory’s explanatory power to political systems with a high degree of party institutionalization. While the theory is not restricted to any specific causal mechanism, the case studies explore and analyze concrete mechanisms of political influence.<sup>23</sup> Moreover, as the theory does not account for external factors such as colonization or empires, it can only be applied to countries which historically enjoyed domestic political autonomy.

When a single group dominates in terms of political influence, I expect this group to create a public bureaucracy in full accordance with its preferences. However, there is also the possibility that two social groups are forced to make a political compromise (Moe, 1989, 273; Przeworski and Wallerstein, 1982; Wright, 2000). In any such compromise, the respective classes would seek to achieve their primary interest but also be willing to accommodate the other group’s interests to some extent. As such, hybrid systems with high levels of political control and high levels of meritocracy represent historical political compromises in which the interest of at least two groups were represented. The case studies that follow below illustrate such compromises.

It is important to note that the working class had only marginal political influence

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<sup>22</sup>A comparable argument about how the organization of Eastern European states is influenced by the relative strength of parties has been made by Grzymala-Busse (2007).

<sup>23</sup>To preview one empirical finding of the case studies: Groups that were successful at shaping the administrative state in accordance with their interests often had some type of formal/informal organization that effectively allowed them to formulate their interests and exercise collective influence to push for their implementation. Several different types of organization will be described in detail in section 2.4.



in most countries during the period when modern bureaucracies emerged (1815-1914), meaning that many public administrations were primarily influenced by the two other socio-economic groups. Why do I account for the preferences of the working class nevertheless? First, one of the most important cases—both for the theory and in terms of its broader political relevance—is the US public administration. Due to its electoral system, which allowed for mass participation in politics much earlier than other countries, working-class influence on politics was already high in the 19th century.<sup>24</sup> Second, in some other cases that are not explicitly discussed in the dissertation, such as Belgium, the working class also enjoyed significant political power when the modern bureaucracy emerged. Finally, although this theory is focused on states that were not subject to foreign rule, many former colonies began to develop modern bureaucracies under different conditions and expanded state capacity much later, including when mass political parties and working-class parties were already present (Slater, 2008). Therefore, some theoretical insights about class preferences that are gained here could be relevant in other contexts.

### 2.3.5 Path Dependence in Bureaucratic Organization

As indicated above, a large number of contributions to the disciplines of political science and public administration contain the argument that bureaucracies are highly path-dependent in their organizational characteristics (Becker et al., 2016; Goetz, 2011, 47; Mann, 1993, Ch. 11-14; North, Wallis and Weingast, 2009, 220; Raadschelders and Rutgers, 1996; Raphael, 2000, 34-35; Silberman, 1993; Tocqueville, 2011; Wunder, 1986, Ch. 4). But what are the specific underlying mechanisms that can account for this high level of path dependence? I suggest that there are at least

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<sup>24</sup>The political power of the working class was also strengthened by the process of unionization. Unions provided an organizational basis for the articulation of working-class interests, both with respect to employers and in the political arena more broadly.

four primary mechanisms constituting persistence in administrative organization:

1. Creating a modern public administration means creating employment on a large scale—a substantial proportion of the population is typically employed by modern bureaucracies. Since the income and prestige of this organization's employees depend on its continued existence and the gained skills are often non-transferable, civil servants are likely to develop a significant interest in the maintenance (and growth) of administrative structures and institutions (Diaz, 2006, 227; Downs, 1967, esp. 8-10, 17, 22-23). In this regard, Asatryan, Heinemann and Pitlik (2017) show that even when facing severe crises (of state finances), public administrations can often use their political power to shield themselves against reforms. Additionally, due to their power over the supply of public services, civil servants and their interest organizations are able to retaliate against political actors that aim at reforming bureaucracies against their interests (Yazaki, 2018).

2. As indicated previously, governments critically depend on public bureaucracies to implement policies and govern effectively (Geddes, 1994, 138; Ingraham, 1995, xxii). Major reforms of public administration can cause disturbances in the ability of those organizations to function properly and to deliver public goods and services. Even revolutionary governments may choose not to abandon existing structures because they need to consolidate political power.<sup>25</sup> Major reforms of public administrations in times of uncertainty could exacerbate the social conflicts and economic shortages associated with political revolutions.

3. In addition to formal structures, organizational culture in public administrations ('administrative culture') often exhibits high levels of persistence and likely affects administrative procedures and the performance of bureaucracies (cf. Vogler,

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<sup>25</sup>See, for instance, Fenske (1985, 26-27), describing continuity in the German bureaucracy after the November Revolution of 1918.

2019).<sup>26</sup> In this respect, it is important to note that different historical traditions in public administration, which are associated with distinct administrative institutions and cultures, still affect variation in the present-day organization and performance of bureaucratic systems (Painter and Peters, 2010*b*).

4. There likely is an equilibrium between citizens' expectations towards bureaucrats and the latter's real behavior.<sup>27</sup> Knowing the expectations of citizens, bureaucrats may adjust their behavior accordingly (Chamlee-Wright and Storr, 2010; Vogler, 2019). For example, when there is formal anti-corruption legislation, but there is no practical enforcement of these laws (potentially because that would contradict other socio-cultural values) (LaPalombara, 1994, 329-332), citizens might expect civil servants to be corrupt. Under such circumstances, public employees likely perceive the costs of engaging in corrupt practices as low. However, there could also be a social expectation of bureaucratic incorruptibility. In such a situation, deviating from regular behavioral patterns (by demanding bribes) becomes difficult because non-fulfillment of expectations possibly results in severe social or economic punishments. Furthermore, positive perceptions of and expectations towards the public administration can be self-reinforcing because they may lead to the self-selection of more and more highly qualified applicants into public administration jobs. This more positive type of equilibrium means that higher levels of efficiency/effectiveness in the provision of public services can be maintained in the long run.<sup>28</sup>

The four mechanisms elaborated above are the main drivers of inter-temporal stability in bureaucratic organization. Even though not every single mechanism may

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<sup>26</sup>For a more detailed justification and investigation of these claims, see chapter 3 and chapter 4.

<sup>27</sup>For a theoretical perspective on how mutually consistent expectations can create a social equilibrium, see David (1994). Furthermore, for an illustration and empirical test of similar (long-term) equilibria in clientelism, see Bustikova and Corduneanu-Huci (2017).

<sup>28</sup>For a more detailed justification and investigation of these claims, see chapter 3 and chapter 4.

apply in all of the cases, each one by itself constitutes an important reason for the relatively high level of path dependence in bureaucratic organization. The persistence in administrative organization—as a specific type of institution—also connects to the inter-temporal stability that scholars have found for a vast array of social, political, and economic institutions (David, 1994; Greif, 1998, 2006; Mahoney, 2000; Raadschelders, 1998).

It is important to note at this point that, while I provide some evidence for path dependence, my case studies focus on the historical impact of groups and cannot provide an exhaustive analysis of these individual mechanisms of inter-temporal stability. Such an in-depth study must be left to future contributions.

### **2.3.6 The Centralization of Political Authority**

How does the centralization versus decentralization of political authority affect the theory? Some degree of central authority is required to create a modern bureaucracy (Kurtz, 2009). Indeed, all states considered here, i.e. those that enjoyed domestic political autonomy, needed to have a minimal level of political centralization, especially to mobilize military power and combat external threats. Otherwise, they could not have maintained their autonomous status (Gibler, 2010; Kennedy, 1988; Tilly, 1990).

Facing rising levels of social mobility, economic complexity, and potential military threats, all states experienced pressures to develop a central public administration—even Russia, which was generally seen as the most backward country with very little central control of local political-administrative affairs (Raphael, 2000, 67-75). Thus, while some degree of centralization in political authority is a necessary prerequisite to develop an early modern bureaucracy, all countries I am considering here met the minimum standards in this respect.

Beyond that, it is important to note that the interests of all three social groups in terms of institutional design apply regardless of levels of centralization:

1. Landed elites may prefer a more decentralized political-administrative system, but regardless of centralization, they prefer patronage recruitment and high levels of control through non-democratic institutions. At all levels of political centralization, the realization of those preferences would be preferable to the alternatives.
2. The interest of the professional and entrepreneurial middle classes in meritocratic recruitment and low levels of political control apply to all bureaucratic institutions, whether in a centralized or in a decentralized political system. At all levels of political centralization, the realization of those preferences would be preferable to the alternatives.
3. The working class may prefer a more centralized political-administrative system, but in all cases they would prefer the removal of educational requirements, less social selectivity in recruitment, and political control through democratic institutions. At all levels of political centralization, the realization of those preferences would be preferable to the alternatives.

In short, while the degree of central authority is linked to whether or not a modern bureaucracy can emerge in the first place, the level of centralization or decentralization in political authority does not substantively modify the three groups' institutional preferences. Once a minimum of centralization is present, the interests of the three groups are orthogonal to the centralization or decentralization of political authority. In the following section, I consider country cases with vastly different levels of centralization in political power and show that the preferences suggested above can be observed in all of these systems.

## 2.4 Case Studies

Did social groups have a decisive influence on the design of public bureaucracies? Which means did they use to influence the nascent administrative state? The following case studies are meant to (1) validate the theoretical claims about group preferences, (2) examine whether social groups were the driving force behind the design of public administrations, and (3) identify causal mechanisms of social-group influence. Accordingly, I use the case-study method to explore specific instances of bureaucratic development in detail and elaborate on concrete causal mechanisms through which socio-economic classes realized their interests (Gerring, 2006). Since the theory is intentionally not limited to a single type of political influence (e.g., formal party organizations), the identification of causal mechanisms is of particular importance to this analysis.

The primary goal of the case selection was to achieve variation in explanatory factors and to cover the most important bureaucratic systems. I conduct case studies with different historical social constellations, ranging from dominance by the landed elites (Italy) or the middle classes (the Netherlands) to compromises between the middle classes and the urban working class (US).<sup>29</sup> Because of its hybrid bureaucracy, the US represents a crucial case for assessing the explanatory power of the theory. I also include Germany and the UK because both countries are well-known for the intensity of social conflicts they experienced in the 19th century, which makes them typical cases. Understanding the precise causal mechanisms of social-group influence under these conditions would be an important contribution to the theory. Moreover, the comparison between Germany and the UK is interesting because, despite vast

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<sup>29</sup>Considering the complex interaction of the two dimensions that was discussed in section 2.2, these three cases are a good match because they are representative of three broad outcome scenarios. For example, Italy has a high-control, low-meritocracy bureaucratic system, the Netherlands has a low-control, high-meritocracy civil service, and the United States scores highly on both dimensions.

differences in their political systems, both were characterized by a compromise between the aristocracy and the middle classes (with differences in the relative power of the two groups).

The cases broadly cover both situations of single-group dominance<sup>30</sup> (Italy, Netherlands) as well as compromises between two social groups (Germany, the US, and the UK). Finally, Russia is a special (and extreme) case because, after the 1917 revolution, there were no politically influential social groups left. Accordingly, this case is included to understand the consequences of such a situation, meaning that the case study is *hypothesis-generating* rather than hypothesis-testing in character.

#### **2.4.1 Extensive Case Study: Prussia/Germany (1805-1914)**

Fueled by military rivalries, especially conflicts with Austria, Prussia developed early modern bureaucratic structures beginning in the 18th century (Raphael, 2000, 53-57; Wunder, 1986, 21-22). Military defeats during the Napoleonic Wars (1803-1815) and the following crisis of state finances triggered a further professionalization in the years 1806 to 1820 (Nipperdey, 1996, 21; Raphael, 2000, 54; Unruh, 1977, 26-28). Even though these two public administrations were far from the ideal type described by Weber (1978, Ch. 11), they already had some of its characteristics, including the separation of office and officeholder as well as long-term career tracks. Thus, they were closer to rational bureaucracies than the administrations of most other countries (Mooers, 1991, 117-118, 121-122; Vries, 2002, 106-107).

As the political power of the monarchy was weakened through the decisive military defeats at Jena and Auerstedt, the bureaucracy was strongly influenced by the landed

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<sup>30</sup>The label 'single-group dominance' is a simplification insofar as there were internal nuances within these groups. For example, in the case of Italy, there were differences between the northern and southern landed elites. Similarly, in the case of the Netherlands, there were differences between the Protestant and the Catholic members of the middle class. However, since the theory is primarily a classification along socio-economic lines, the case studies also focus on distinctions along this dimension.

elites and the middle classes. Members of both social groups already dominated public offices and used their formal and informal power to influence reforms in the design of the public administration. However, the nobility remained dominant at the upper levels of the internal bureaucratic hierarchy (Bleek, 1972, esp. 18, 26; Henning, 1984; Koselleck, 1967; Nolte, 1990; Rosenberg, 1958). During the reform period, the middle classes pushed for meritocratic recruitment; yet the landed elites rejected this because they wanted to preserve their preferential access. The conflict was settled through a compromise in which the noblemen accepted higher educational requirements—such as the necessity of a university degree—but maintained their position and the exclusion of the lower classes (Bleek, 1972, 39-40; Mann, 1993, 450; Raphael, 2000, 53-54; Wunder, 1986, 66-67).

In reforming the institutions of the state, the key actors Karl Freiherr vom und zum Stein and Karl August von Hardenberg were influenced not only by the philosophy of enlightenment but also by liberalism—the ideology of the middle classes. Amongst others, it proposed a more meritocratic state apparatus and a new relationship of economy and state that would lead to a stronger and emancipated bourgeoisie (Bleek, 1972, 85-87, 95-96; Nipperdey, 1996, 21-22; Nolte, 1990, 33, 36). The crucial period between 1806 and 1820, in which the fundamental institutions of the nascent Prussian bureaucracy emerged, was the time when these reform forces and the middle classes within the bureaucracy were seen as having the strongest influence (Bleek, 1972, 28-29; Nipperdey, 1996, 21-23). However, after the reform, between 1820 and 1848, the middle classes lost ground in terms of their share of positions (Bleek, 1972, 157; Rürup, 1992, 160; Wunder, 1986, 54). Regardless of their share of positions, middle class preferences with respect to the bureaucracy remained constant. Many entrepreneurs thought of the bureaucracy as inefficient, restrictive, and inflexible (with potential negative effects on economic policies, such as the *German*



*Customs Union*), resulting in a desire to strengthen meritocratic recruitment (Bleek, 1972, 27-36; Hattenhauer, 1993, 236-237).

Increasing the level of meritocracy in recruitment was also in the immediate interests of the professional middle classes who had the best education among all social groups (Bleek, 1972, 38-40, 44). For them, employment in the bureaucracy offered an opportunity for “economic and social advancement” based on merit instead of birthright (Mooers, 1991, 121). In a German periodical, the interest of the middle classes was described as turning the bureaucracy into an “open aristocracy of talent and knowledge” (quoted in: Bleek, 1972, 39).<sup>31</sup> Furthermore, to its members it was particularly important that the aristocracy could not monopolize the public administration, which would have allowed the nobility to use it as a tool to further its interests by inhibiting liberal economic and social policies. Accordingly, fear of state intervention on behalf of aristocratic interests was a key reason for the middle classes to protect the bureaucracy from political control (Bleek, 1972, 27, 30-36).

The conflict of interest over the bureaucracy had been fueled by a crisis of agricultural production, including a reduction in profits, meaning that many noblemen were in a situation of relative economic decline. As the economic foundation of their social and political privileges was threatened, their goal became to find an alternative source of income—and the state was seen as a promising option (Gillis, 1968, 111; Koselleck, 1967, 80-82). Because they depended on the state as their employer but often did not have a university degree, the aristocracy was strongly against further increases in educational requirements (Bleek, 1972, 42-44; Nolte, 1990, Ch. 1, esp. 39-42).

The 1848 revolution was important insofar as it led to the institutionalization of ‘political civil servants’—a step that was originally meant to protect the revolution

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<sup>31</sup>Translated by the author (J.P.V.).

against reactionary bureaucrats. Initially a creation of the middle classes against the landed elites in the unique situation of the revolution, it was soon adopted by conservative forces. When they returned to power, they made it a part of their own agenda and subsequently used it to exert control over the civil service by removing or threatening the removal of politically disobedient bureaucrats (Hartung, 1961, 252-253; Ule, 1964, 294). In addition to this institution, which was readily adopted by the traditional elites, the Prussian constitution, which was an outcome of the revolution led by the middle classes, included two articles reflecting middle-class interests. Article 4 asserted that entry to the civil service should be open to every citizen. Article 98 asserted that there should be protection from arbitrary dismissal. However, these successes remained nominal because, when the revolution failed, the landed elites regained the upper hand and never implemented these articles in practice (Fenske, 1973, 340).

Comparable to Prussia, the German Empire founded in 1871 was characterized by a compromise of aristocracy and middle classes (Eley, 1984; Rogowski, 1987, 1125; Rosenhaft and Lee, 1994, 16). Initially, Reich Chancellor Otto von Bismarck governed with the latter's representative, the National Liberal Party (Craig, 1978, 62-64; Wehler, 1994, 80-83). Even though aristocratic forces controlled the executive, they needed the approval of the liberal parliamentary majority—which existed in the first decade of the new state—in the *Reichstag* to pass any legislation. The leaders of the industrial elite also enjoyed informal access to high-ranking members of the executive, giving them additional opportunities to influence government policy (Augustine, 1991, 58).

With respect to the bureaucracy, the first few years of the Empire were crucial as this was when the legal framework for the civil service was developed. Comparable to other conservative political forces (Pollmann, 1985, 340), during the creation

of the Reich Civil Service Law (1871-1873), Bismarck tried to further increase the extent of political dismissals. Bismarck's desire to increase political control over the public administration was partially motivated by his deep skepticism regarding an autonomous public administration. Amongst others, he was afraid of political decisions having "the tint of theory and the bureau" if they were made by those who "do not possess [wealth], non-industrialists, non-farmers in the ministerial arena" (quoted in: Wunder, 1987, 294).<sup>32</sup> His deep suspicion of bureaucratic autonomy derived in part from his experience with the 1848-49 revolution, after which he claimed that the bureaucracy can be seen as the "carrier of the revolutionary spirit in general" (quoted in: Wunder, 1987, 293).<sup>33</sup>

Accordingly, based on his previous experiences, including the participation of civil servants in the revolution, Bismarck's view was that civil servants *had to* represent the interests of the monarchy, both in terms of voting behavior and even if they were elected representatives in parliament (Hartung, 1961, 260-261; Rejewski, 1973, 62-68). Minister of the Interior Friedrich Albrecht Graf zu Eulenburg expressed the following position of Bismarck's government: "Royal civil servants must not abuse the reputation they gain through their employment to further political ambitions that run counter to the will of the government" (quoted in: Rejewski, 1973, 63).<sup>34</sup> These beliefs, which were widely shared among the nobility, are also clearly visible in another 1863 decree. In this decree, Eulenburg states that some members of the civil service may have joined the political opposition and intend to vote for its parties in the upcoming elections of September 24, 1863. He then denounces membership in the political opposition and demands that members of the civil service cast their votes for conservative parties that are aligned with the landed elites (Hartung, 1961,

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<sup>32</sup>Translated by the author (J.P.V.).

<sup>33</sup>Translated by the author (J.P.V.).

<sup>34</sup>Translated by the author (J.P.V.).

261; Rejewski, 1973, 64; MBPr, 1863, 190-191).

Bismarck's position regarding the necessity of political loyalty remained unchanged throughout later years, too. For instance, in 1882, he convinced the King of Prussia (who was also the Emperor of Germany) to issue a royal decree in which the King—following a familiar pattern—demanded that bureaucrats should see it as their duty to vote for parties that were supportive of the aristocratic government (Hartung, 1961, 264-266).

Despite Bismarck's strong desire to control the behavior of bureaucrats, his attempt to increase the political control of the (aristocratic) executive—through an increased number of dismissals (in the *Reich Civil Service Law*)—failed due to middle-class resistance in parliament. In particular, the National Liberal Party did not accept an increased number of political dismissals in the civil service. Consequently, political control through the executive, which was dominated by the nobility, remained at an intermediary level (Hartung, 1961, 255; Kugele, 1978, 14; Morsey, 1972, 103; Stoltenberg, 1955, 115-122).

In addition to the number of appointments, disagreements were strongest over the requirement of political loyalty from civil servants. In particular, the original version of paragraph 10 of the law was seen as problematic by the liberal middle-class representatives. In its original version, it stated that there was a “duty to loyalty” in terms of “the Constitution, the laws, and other orders.”<sup>35</sup> To restrict possibilities of abuse, liberal politicians in parliament first pushed for changing this to “the Reich Constitution, the laws, and professional orders issued by superiors *within their office's responsibility*” [emphasis added, J.P.V.].<sup>36</sup> Later, this paragraph was modified in such a way that it only demanded adherence to the Reich Constitution and the laws, which

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<sup>35</sup>Translated by the author (J.P.V.).

<sup>36</sup>Translated by the author (J.P.V.).

clearly reduced the formal powers of the aristocratic executive and was a victory of the liberal forces in parliament (Stoltenberg, 1955, 117-121). Bismarck's failure at increasing the number of appointments and the ultimate change in the law's language were clear indications that the middle classes, afraid of an abuse of executive power, were willing to use their influence in parliament to put limits on the political control of the bureaucracy.

Recruitment in the German Empire remained decentralized. Thus, in Prussia—the most important state of the Empire—there was another important compromise between the aristocracy (which controlled the Prussian government and the House of Lords) and the middle classes (which dominated the Prussian House of Representatives). In 1879, a law was passed that prescribed meritocratic recruitment procedures, including the requirement of a law degree and multiple examinations through an independent commission (Bleek, 1972, 175-179).

The origins of this law can be found in the efforts of Eugen Richter, a liberal member of the Prussian house of representatives, to reform the recruitment of civil servants. But Richter and his party were not the only people that pushed for reform. Additionally, Rudolf von Gneist and Otto von Gierke—two professors—criticized the existing system for a disproportionately long trial service (an aspect that made the system more socially selective but did not necessarily contribute to the practical qualifications of the civil servants). Furthermore, as many critics pointed out, the meritocracy of the system was weakened because it had higher *de jure* than *de facto* requirements (Bleek, 1972, 164-170, 184). However, despite the criticism of the previous law, the high educational requirements in new law still excluded the lower classes from the civil service.

What were the interests of these “lower classes?” There was a plurality of opinions among working-class members with respect to the civil service, but many in the

working class argued that the bureaucracy should be subject to democratic control. Additionally, working class representatives demanded more open recruitment and advancement without educational restrictions (Hoffmann, 1972, Ch. 1).

How can the above analysis help us understand Germany's present-day bureaucracy, especially with respect to recruitment and political appointments? The German Empire's bureaucratic organization is still highly relevant today. Since the early 19th century, civil servants have constituted a powerful interest group, which has used its political power—as well as the practical necessity of a maintenance of public order—to protect the civil service from fundamental interventions. Interestingly, both after 1918 and after 1945, the German bureaucracy was comprehensively restored, maintaining many of its original characteristics (Ellwein, 1987, 21-22; Ellwein and Hesse, 2009, 316-319; Fenske, 1985, 26-27; Rieckhoff, 1993, 20; Wunder, 1986, Ch. 3-4). In fact, the West German constitution, named Basic Law (*Grundgesetz*), included the following provisions in article 33, paragraph 5: “The law governing the public service shall be regulated and developed with due regard to the traditional principles of the professional civil service” (Deutscher Bundestag, 2012, 35).<sup>37</sup>

Some new elements were introduced to civil service legislation after 1948/49. For example, the obligation for civil servants to strictly work within the parameters of the democratic system was a consequence of the historical developments in Nazi Germany. Despite some inter-temporal changes, generally high levels of continuity can be observed with respect to bureaucratic recruitment and career paths (Bleek, 1972; Derlien, 1991, 385-387; Wunder, 1977, 374-375) and with respect to the institutions of “political civil servants” in particular (Echtler, 1973, 42-47; Kugele, 1978, 9-11). These high levels of continuity with respect to institutions of recruitment

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<sup>37</sup>According to Günther (2007, 367), this clearly refers to the Reich Civil Service Law of 1873 which has been investigated extensively above. Additionally, the organization of recruitment (as initially regulated in the Prussian laws of 1879 and 1906) is one of the core pillars of these traditional principles (Bleek, 1972, esp. 12).

and political control highlight the relevance of a historical analysis.<sup>38</sup>

To summarize, the German bureaucracy was characterized by a compromise between landed elites and the middle classes, with a strong position of the former. The landed elites exerted influence through direct control of the executive, while the middle classes participated in political decision-making primarily through party organizations in the legislature.<sup>39</sup> The strong formal and informal representation of aristocratic and landed elite interests left little space for the working class to implement their vision of the administrative state.

In short, the historical events described here are still relevant for the present day because “[t]he German civil service achieved its final shape, which is decisive until this day, during the period of the German Empire”<sup>40</sup> (Wunder, 1986, 106). To a large extent, this continuity impacts both the organization of recruitment and training (Bleek, 1972, 12; Derlien, 1991; Wunder, 1977) as well as the level of political control (Echtler, 1973, 42-47; Kugele, 1978, 9-11). Until the present day, the German bureaucracy has relatively high meritocracy, elements of social selectivity, and an intermediary level of political control.<sup>41</sup>

#### 2.4.2 Short Case Study: Italy (1861-1914)

Prior to 1861, Italy was politically fragmented and consisted of a large number of independent states. As the Kingdom of Sardinia (Piedmont) was the actor behind national unification, its bureaucracy expanded to the other regions (Cardoza, 2002, 72;

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<sup>38</sup>Note that some aspects of the *training* of civil servants have changed over time, but these changes are minor compared to the extent to which past developments have shaped the civil service. For details on this issue, see Derlien (1991, 389).

<sup>39</sup>As elaborated above, the industrial elite also enjoyed informal channels of influence (Augustine, 1991).

<sup>40</sup>Translated by the author (J.P.V.).

<sup>41</sup>In 2007 there were 10 political appointments per German minister and 160 in total (Dahlström, 2009, 15).

Lewanski and Toth, 2011, 219). Therefore, the Piedmontese public administration is of special importance for understanding the nascent national bureaucracy. At first glance, Italy appears like a deviant case. It is often seen as a historically liberal state with a strong entrepreneurial middle class. However, its present-day bureaucracy is characterized by high levels of political control and low meritocracy (Di Mascio, 2012; Golden, 2003; Müller, 2000; Müller, 2006). How can these apparent inconsistencies be explained?

First, there was no coherent (middle-class) party organization in 19th-century Italy. The parliament merely consisted of loose coalitions that had no permanent organizational structures. In other countries, such party organizations often served as key tools of the middle and working classes against the great (informal) political power of the aristocracy.<sup>42</sup> Second, in addition to the influence that the traditional elites had on the *initial* state institutions, they also maintained disproportionately high political power through various informal mechanisms, as will be elaborated in more detail below. Third, in part due to late industrialization, the distinction and conflict between the (entrepreneurial) middle class and the aristocracy was weaker than in many other countries. Members of the middle class often aspired to own land in order to move closer to the nobility and increase their social status. As a result, the middle class did not develop a strong class identity distinct from the traditional elites. These circumstances meant that middle-class interests did not have as strong an impact on the organization of the state as might be assumed (Cardoza, 2002; Klimó, 1997, 18; Meriggi, 1988; Pilbeam, 1990).

The landed elites (of Piedmont) had significant influence on the early structures of the bureaucracy. Therefore, hierarchy became the main organizational principle.

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<sup>42</sup>For instance, in Germany, the Social Democrats developed an extremely strong party apparatus, which allowed them to take over control of the government after World War One (Walter, 2009).



The bureaucracy was meant to strictly and mechanically follow the directives of political decision makers, indicating high levels of political control (Lewanski and Toth, 2011, 219; Mattarella, 2016, 17-18). Additionally, high levels of influence by the nobility were ensured through a patronage system that was created and maintained by aristocrats in government positions. Through their extensive political connections, the traditional elites were able to maintain access to a disproportionate share of government offices. The combination of their informal influence on the monarchy and the occupation of public offices allowed for the establishment and maintenance of a patronage system in the broader state apparatus for decades after 1861 (Cardoza, 2002, 71-73, 83-88). Even though the northern landed elites dominated the state, the interests of different regional groups of the aristocracy complemented each other in this respect (Shefter, 1994, 52-53). The practice of direct political influence was also clearly visible in the relationship of parliament and bureaucracy (Klimó, 1997, 52; Meriggi, 1988, 148-149).

Even though the social composition of the Italian administration became increasingly more diverse in the 19th century, meaning that civil servants were now recruited from more regions and social groups (Lewanski and Toth, 2011, 221, 229-230), the system did not become much more meritocratic. Instead, personal connections still played a significant role in hiring and firing. As Cardoza (2002, 86) writes, “blue-blooded patrons intervened on behalf of their local clients [...] who needed help in matters of hiring, transfers, and promotions within the state administration.” Although the nobility was unable to maintain its high level of informal political power in the long run (Cardoza, 2002; Lewanski and Toth, 2011, 225-230), the trajectory that the bureaucracy had been put on meant that high levels of political control and low levels of meritocracy prevailed.

Starting in the 1900s, administrative law also played a role in maintaining in-

fluence over the bureaucracy (Lewanski and Toth, 2011, 221). This meant that procedures became more institutionalized and the degree of political discretion was somewhat reduced. However, Klimó (1997, 54-56, 74) points out that the law was only weakly defined for most of the previous period. Uncertainty about legal proceedings had increased the importance of maintaining good relationships to patrons.<sup>43</sup> Similarly, given the high levels of political control, positions in the bureaucracy were unsteady and often subject to changing political majorities (Meriggi, 1988, 148).

To summarize, due to the absence of strong party organizations, Italy's landed elites were able to exert disproportionately high influence on the emerging bureaucracy through informal channels, including direct connections to the monarchy. They used their informal political networks to promote patronage recruitment and high levels of political control. Many formal and informal institutions of the early public administration have endured (Painter and Peters, 2010*a*, 22). Thus, even though some aspects of the Italian bureaucracy have changed (such as the level of regionalization), many historical problems remain (Ongaro, 2010).

Continuity in administrative practices also affects recruitment and appointments. For instance, "local notables are in many respects still part of the landscape in Greece and Italy, notwithstanding attempts at taming this patronage" (Ongaro, 2010, 176). Additionally, Italy still has one of the highest levels of appointments in Western countries with 34.6 per ministry and 900 in total (in 2007) (Dahlström, 2009, 15). Even though there were ups and downs in bureaucratic organization and the number of appointments over time, these changes are small compared to cross-national variation. Thus, the present-day Italian bureaucracy is largely plagued by the same problems as in the 19th century (Cassese, 1999; Golden, 2003; Lewanski and Toth, 2011, 224, 228; Müller, 2000; Müller, 2006).

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<sup>43</sup>See also Mattarella (2016, 18-19).

### 2.4.3 Short Case Study: the United States (1865-1925)

The American bureaucracy before 1883 was often referred to as a “spoils system” and characterized by high levels of political control and low levels of meritocracy. Positions in the state apparatus were awarded primarily based on political alignments and electoral support (Ingraham, 1995, 20-25; Shefter, 1994, Ch. 3; Silberman, 1993, 243-249; Van Riper, 1958, Ch. 3). The entrepreneurial and professional middle classes, including some civil servants, were very dissatisfied with this situation (Anagnoson, 2011, 127; Mann, 1993, 471; Skowronek, 1982, 42-52; Sproat, 1968, Ch. 9). For example, the American Manufacturers’ Association argued that it is “indispensable that public affairs be conducted on business principles, and that the dangerous custom of giving public posts to political paupers and partisan servants ... should be discontinued, as such custom absorbs a large share of the public revenue” (quoted in: Nelson, 1982, 120).<sup>44</sup> For the professional middle class, merit recruitment would make it easier to occupy public leadership roles (Skowronek, 1982, 54). Accordingly, the existing patronage system worked against the interests of both the entrepreneurial and professional middle classes.

Beginning in the 1860s, Republican congressman Thomas Jenckes was one of the strongest advocates of reform. In his endeavor to reform the civil service, he sought the support of businessmen who he knew to be strongly interested in increased government efficiency (Hoogenboom, 1961, 640; Hoogenboom, 1968, 28; Köttgen, 1928, 198-199; Skowronek, 1982, 47-51). This becomes evident in an article he published in the *Nation*, suggesting “prompt action and agitation by merchants, manufacturers, tradesmen, capitalists, railroad and other corporations” (quoted in: Hoogenboom, 1961, 640).<sup>45</sup> The significant middle-class interest in meritocracy was also visible in

<sup>44</sup>See also Hoogenboom (1968, 42-43).

<sup>45</sup>As there was strong political resistance, no reforms were passed in the 1860s and 1870s. How-

the membership of the *National Civil Service Reform League* (1881)—initially it consisted mostly of professionals, later many entrepreneurs joined (Hoogenboom, 1960; Hoogenboom, 1968; Stewart, 1929).<sup>46</sup> Influenced by liberalism—including laissez-faire economics—the reformers wanted to introduce middle-class morality and economic efficiency to the administration (Van Riper, 1958, 82-87; Skowronek, 1982, 51). Thus, this non-governmental organization and its members lobbied for civil service reform, meaning in particular the introduction of standardized and education-based recruitment procedures.

In January 1883, the *Pendleton Civil Service Reform Act* was passed by Congress, with the strongest support from liberal middle-class Republicans. It introduced meritocratic recruitment, though initially just for a small proportion of civil servants. Resistance against it primarily came from Democrats, which represented a coalition of northern workers and southern traditional elites (Stewart, 1929, 33-34; Theriault, 2003, 59-60; Van Riper, 1958, Ch. 5). Senator Pendleton, who was the sponsor of the bill, later acknowledged the critical influence that the *National Civil Service Reform League*, which was led by the middle classes, had on the bill:

I desire to make my acknowledgment of obligation. I was groping in the dark with Jenckes bill of the olden time. Some gentlemen in New York ... being conscious of the errors which had been committed ... without consultation with me drafted a bill, and sent it for my examination. I shall not easily forget the morning on which a gentleman whom I had never seen before, Mr. Dorman B. Eaton [a reform leader in New York], explained to me the defects of the Jenckes bill and the provisions of the New York Bill, and left it for my consideration (quoted in: Stewart, 1929, 25).

The voting patterns in Congress as well as the influence of the *National Civil Ser-*

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ever, the movement was gaining momentum (Sproat, 1968, 260).

<sup>46</sup>However, some of the reformers had an anti-monopoly point of view, and entrepreneurs did not form the leadership but just had a strong supportive role (Skowronek, 1982, 52).

*vice Reform League* show how the interests of the middle classes clashed with those of the landed elites and the working class. Even though the latter never reached full political strength in the US, workers' interests were always represented to some extent due to the complex system of checks and balances. The working class controlled politics in major cities (through so-called 'political machines') and had influence on federal elections as well (Banfield and Wilson, 1965, Ch. 9). Workers distrusted the institutions of an impersonal, expert-led bureaucracy with high levels of discretion and believed it should either be pushed back or—if de-bureaucratization was impossible—brought under democratic control (Sanders, 1999, Ch. 11).

Even though the liberal reformers wanted to *minimize* political control, the Pendleton Act also reaffirmed political appointments at the *higher* bureaucratic levels (Silberman, 1993, 259; Van Riper, 1958, 99-109; Van Riper, 1971, 127-128)—a decision that still shapes the American civil service until this day (Derlien, 1991, 392; Peters, 2004, 126). Why could political control not be abandoned entirely? The reasons were in part the advent of mass political participation in the early 19th century and the ideal of a 'democratically controlled bureaucracy,' influenced by Jacksonian ideas, to which many politicians still subscribed. However, the middle classes were open to a compromise in which some political control would be maintained because, for them, the *dispersion of political control among multiple government agencies* was an alternative to the reduction of appointments. The new recruitment system also put much less emphasis on academic achievements than the English one and was more open to lower social groups. For all of the above reasons, the Pendleton Act might be described as a compromise between the interests of different groups, specifically the urban working class and the middle classes (Ingraham, 1995, 20-29; Peters, 1995, 28-32; Van Riper, 1958, 63, 105-109).

The Pendleton Act had created a dynamic that lasted for at least four decades.

Several presidents from both parties gradually extended the number of classified civil servants between 1883 and 1923 (Ingraham, 1995, Ch. 3). Theodore Roosevelt, in particular, is seen as a president who governed based on the understanding of a labor-capital compromise. As a former member of the US Civil Services Commission, he had a strong interest in the expansion of meritocracy but never came close to fully removing political control (Silberman, 1993, 271-277; White Jr., 2003). The reform of the civil service on the federal level also fueled the introduction of meritocracy in the American states (Ruhil and Camões, 2003).

The development of the modern bureaucracy was finalized through several reform acts: the 1920 Civil Service Retirement Act, the 1921 Budget and Accounting Act, and the 1923 Personnel Classification Act. The Budget and Accounting Act entailed a unification and codification of budgetary control mechanisms of the bureaucracy. It reflected the desire of entrepreneurs and the Republican party for limited government. The other acts created a pension system and standardized wages across agencies, with the goal of greater bureaucratic efficiency. A broad coalition of the middle classes and their political representatives were key forces favoring these reforms (Kiewiet and McCubbins, 1991, 170-174; Shefter, 1994, 76-81; Silberman, 1993, 277-282; Van Riper, 1958, 296-304; Van Riper, 1971, 132).

To summarize, we observe a historical compromise between middle-class and working-class political interests in the US. The high level of political control results from the alignment of middle-class interests to disperse political power and working-class interests to achieve control through democratic institutions. Other than in the Italian case (where we historically observe the absence of permanent party organizations), in the US, parties—especially the liberal wing of the Republican Party—were crucial forces for civil service reform (and, in the case of the Democratic Party, also against it). The US case study also shows how social groups can use non-governmental

organizations, such as the *National Civil Service Reform League*, to promote their interests.<sup>47</sup> Even though there have been ups and downs in the number of political appointments since the 1920s (Lewis, 2011), the present-day bureaucracy still has an extraordinarily high number (Ingraham, 1995, Ch. 1-2; Peters, 1995, 22-23; Peters, 2004, 126).<sup>48</sup> The historical analysis of American bureaucratic structures is relevant because many of them have persisted until the present day (Ingraham, 1995, xxii; Silberman, 1993, 227).

#### 2.4.4 Short Case Study: the United Kingdom (1854-1918)

England's public administration in the 18th and early 19th centuries was, to a considerable extent, a patronage system under the control of the landed elites (Bendix, 1978, 237; Cohen, 1965; Jennings, 1971, 24-25; Kingsley, 1944, Ch. 2; MacDonagh, 1977, 197-203).<sup>49</sup> However, throughout the 19th century, the middle classes gained more power and were able to push through reforms. The entire political system as of 1832 represented a compromise between two social groups. The upper chamber of the parliament, the House of Lords, was dominated by the aristocracy, and the lower chamber, the House of Commons, was dominated by the middle classes (Moore, 1974, Ch. 1; Perkin, 2002, 261). As the approval of both chambers was required to pass legislation, neither group could completely ignore the interests of the other when it came to fundamental changes to the public administration.

The middle classes opposed the existing administrative system because of corrup-

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<sup>47</sup>Prior to the formation of this federal organization in 1881, there had been local and regional groups with the goal of civil service reform.

<sup>48</sup>This number is extraordinarily high in comparison with other countries at a similar level of development, especially the European civil service systems.

<sup>49</sup>According to O'Gorman (2001, 58), the extent of patronage is sometimes overestimated; yet even in his own judgment it was "considerable."

tion and inefficiency. They wanted to end the dominance of the landed elites and introduce meritocratic recruitment (Helsby, 1956, 36; Kingsley, 1944, Ch. 3; MacDonagh, 1977, 202-207; Perkin, 2002, Ch. 8). Strong public interest in the topic was activated by the Northcote-Trevelyan Report of 1853/54, which was highly critical of political appointments and instead recommended recruitment based on competitive examinations, conducted by an independent commission (Campbell, 1955, 25-29). Highlighting the benefits of meritocracy to the well-educated middle classes, one of the report's authors, Trevelyan, stated in a letter that introducing meritocracy would mean that "the highly educated sons of our upper & middle classes would pass through the examinations" (quoted in: Greenaway, 1985, 163-164).

In 1855, as a response to the report, the *Administrative Reform Association*, a civil-society organization, meant to exert pressure on political representatives, was founded. It primarily consisted of professionals and entrepreneurs and advocated for reforms of the state apparatus. Even though reforms of the bureaucracy were not its only goal, it spoke out against aristocratic mismanagement in both government and administration and lobbied for competitive examinations (Anderson, 1965; Shefter, 1994, 46-47). It achieved its first success in 1857, when a resolution for open competition in the recruitment of civil servants was brought into the House of Commons. However, at this time, the legislation faced great resistance, especially by conservative forces ("protectionists") who wanted to maintain the existing patronage system (MacDonagh, 1977, 209).

Particularly the traditional elites were interested in maintaining the existing administrative system and excluding the lower classes (Black, 1970, 261; Campbell, 1955, 31; Cohen, 1965, 107). Accordingly, the leading conservative politician Benjamin Disraeli—whose party represented landed-elite interests—spoke out against competitive examinations. At the other end of the political spectrum, the liberal



politician William Gladstone was in favor of introducing meritocracy (Cohen, 1965, 113-115; MacDonagh, 1977, 202-204). He had also originally asked Northcote and Trevelyan to assess the state of the administration which reflected the dissatisfaction of middle-class representatives with the administrative system (Köttgen, 1928, 171). As theoretically suggested, we can observe the conviction that the introduction of a meritocratic system would benefit the classes which possess a superior education in the words of William Gladstone: “[O]ne of the greatest recommendations of the change [of civil service reform] in my eyes would be its tendency to strengthen ... the ties between the higher classes and the possession of administrative power” (quoted in: Morley, 1903, 649).<sup>50</sup>

The middle-class representatives achieved a partial victory, when an independent commission, checking the qualifications of prospective civil servants, was established in 1855. Yet many ways to circumvent meritocracy remained, for example discretion regarding the pool of applicants that would sit for an interview (Campbell, 1955, 32-35; Cohen, 1965, 111; Kingsley, 1944, 72; Köttgen, 1928, 171-172).

More than a decade later, liberal Chancellor of the Exchequer Robert Lowe asked Prime Minister Palmerston to address the issue more comprehensively. Considering the strong resistance against civil service legislation by the representatives of the landed elites, the initiation of reforms by representatives of the middle classes was not surprising. Consequently, in 1870, open competitive examinations were finally adopted (Campbell, 1955, 38; Cohen, 1965, 121-122; Kingsley, 1944, 75-76). Nevertheless, the traditional elites were able to maintain high social selectivity because recruitment was mostly limited to graduates from the universities of Oxford and Cambridge. Also, the higher ranks of the British civil service remained primarily occupied by men of privilege, and there were almost no opportunities to rise from

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<sup>50</sup>Also quoted in: Greenaway (1985, 162).

the lower ranks of the bureaucracy. Thus, the system clearly was a compromise, partially reflecting the interests of the traditional elites (Cohen, 1965, 130; Kelsall, 1956, 155-156; Kingsley, 1944, Ch. 3-4; Mann, 1993, 470; Raphael, 2000, 171-172; Shefter, 1994, 47-48; Silberman, 1993, 287).

Similar to Germany, the British case was a compromise between the middle classes and the landed elites. However, due to the relative weakness of non-democratic institutions (such as the monarchy), there was increasingly little space for the landed elites to maintain patronage control. Additionally, due to the growing political strength of the middle classes—primarily through the Liberal Party, but even within the Conservative Party—the landed elites finally agreed to end patronage and reduce appointments (Shefter, 1994, 48-51).<sup>51</sup>

The organization of the British bureaucracy is highly path-dependent, meaning that historical events still shape its structures (Richards, 2003; Silberman, 1993, 291-292). This is particularly true with respect to the recruitment patterns to its higher ranks, which “still reflect the principles of the Northcote-Trevelyan reforms of 1854 which specified the recruitment of the kind of candidate for senior office that Oxford and Cambridge have overwhelmingly supplied ever since” (Page and Wright, 1999, 1). Furthermore, with an average of just 3.5 appointments per minister and a total of 80 appointments (in 2007), political control is comparatively low and patronage uncommon (Dahlström, 2009, 15; Müller, 2000; Müller, 2006). Accordingly, the historical structures that were a compromise between the middle classes and the nobility still shape the organization of the British bureaucracy in the present day.

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<sup>51</sup>Köttgen (1928, 186, Fn. 2) reports that in 1914, there were about 300 civil servants who were not career bureaucrats and that this number was lower in 1928, probably closer to 60-70 as suggested by Kingsley (1944, 9) for the year 1944.

## 2.4.5 Short Case Study: the Netherlands (1848-1918)

Throughout the 17th and 18th centuries, the Dutch administration was characterized by patronage. Recruitment based on meritocratic principles was the exception rather than the norm (Randeraad and Wolfram, 2001, 103-104). Moreover, well into the 19th century, personal connections often remained more important than academic or occupational qualifications (Van der Meer, Kerkhoff and van Osch, 2014, 6; Dijkstra and Van der Meer, 2011, 151). However, this changed in the late 19th century. Why did this change occur? During this time period, there were almost no countries which had a stronger political influence of the middle classes than the Netherlands (Dincecco, 2009, 54; Dijkstra and Van der Meer, 2011, 151-152). The middle classes were the driving force behind changes in the Dutch administrative state.

How did the liberal elites shape administrative structures? Throughout the liberal era, there was a movement towards higher educational requirements and competitive examinations (Van der Meer, Kerkhoff and van Osch, 2014, 7-8). “Patronage on the basis of family, religious or political ties slowly but surely diminished after the 1880s, [and] merit became the dominant principle” (Van der Meer, Dijkstra and Kerkhoff, 2016, 144). The introduction of competitive examinations was motivated by ensuring a higher competence and efficiency of the civil service (Van der Meer, Raadschelders, Roborgh and Toonen, 1991, 204-205). Additionally, the middle classes gave up their political control because “their social and economic status was not at risk” (Randeraad and Wolfram, 2001, 108).

Furthermore, a new administrative culture, considering the civil service as a non-partisan force prioritizing the “national interest,” developed during the liberal era. Recruitment into the bureaucracy based on qualification coincided with the interest of the nation as well. For the middle classes, it was a convenient circumstance that

they were the most highly educated subset of Dutch society. Therefore, their desire to increase meritocracy in recruitment coincided with their self-interest. Thus, not unexpectedly, middle-class members dominated the public administration in terms of personnel (Randeraad and Wolfram, 2001, 114-115).<sup>52</sup> Additionally, the extensions of the franchise between 1887 and 1919 led to further reductions in the incentives for clientelistic exchange (Randeraad and Wolfram, 2001, 108-119).

Accordingly, the middle classes—who were firmly in charge of the Dutch state in the 19th century—institutionalized meritocratic recruitment procedures and limited government control to shield the bureaucracy from future political influence. In short, the origins of the modern Dutch civil service were (1) the new political culture of the liberal era and (2) the reforms initiated by liberal governments in the 19th and early 20th centuries. These reforms consist of movements towards competitive examinations, high educational requirements, and low political control. Until this day, past developments play an important role for bureaucratic organization, specifically also with respect to the training and education of civil servants (Van der Meer, Kerkhoff and van Osch, 2014). Even though merit recruitment remained a persistent principle of the Dutch bureaucracy after the 1880s, the specific criteria of merit evolved together with the functions of the state (Van der Meer, Dijkstra and Kerkhoff, 2016).

In accordance with the historical path it was put on a century ago, the present-day Dutch civil service recruitment system remains highly competitive and egalitarian (Van Thiel, 2012, 253). Despite some decentralization of administrative recruitment, high levels of egalitarianism can be observed across different departments (Van der Meer, 1997, 58; Van der Meer, Kerkhoff and van Osch, 2014, 4; Dijkstra and Van der Meer, 2011, 154-155). Furthermore, the civil service still has a low level of political

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<sup>52</sup>It is important to note that, while the middle classes were dominant, there still was a substantial number of aristocrats in the administration. Although their presence was declining, it remained especially visible at the upper levels of the internal hierarchy (Van der Meer and Raadschelders, 2014, 774-775; Raadschelders and Van der Meer, 1998, 238).

appointments (Dahlström, 2009, 15; Kopecký and Scherlis, 2008, 365), which means fewer opportunities for patronage than in high-appointment cases like, for instance, Italy (Müller, 2000; Müller, 2006).<sup>53</sup>

#### **2.4.6 Short Case Study: (Soviet) Russia (1917-1925)**

In the 19th century, Russia attempted to modernize its public administration, which was complicated by the size of the country, its low population density, and poor infrastructure. Due to the political power of the aristocracy and the weakness of the state infrastructure, many administrative powers were delegated to local landed elites. As the Russian state was mainly supported by “a declining landowning nobility” (Hough and Fainsod, 1979, 5), there was a strong element of social selectivity and patronage in the comparatively small central bureaucracy. However, members of the professional middle class were not entirely excluded (Baberowski, 2014, 17-25; Davies, 2005, 70-71; Raphael, 2000, 41, 68-70).

The Russian Revolution and its aftermath were crucial for the development of the country’s modern bureaucracy. The Bolsheviks, who seized power in 1917, were extremely aggressive in their fight against any form of political resistance. As there was no primary social group on which the regime could rely, and the rulers feared the counter-revolution, the Bolsheviks murdered many members of the landed elites and the middle classes or forced them to emigrate. Even after the Bolsheviks’ victory in the civil war, uncertainty about the stability of the regime persisted. This increased the desire of the Communist party elites to be in full control of the machinery of the state, which they could then use to suppress political and social resistance. As a response, bureaucratic organization was comparatively hierarchical (Baberowski, 2014; Kenez, 2006, Ch. 2; Fainsod, 1963, Ch. 4-5).

<sup>53</sup>However, some voices are more skeptical about the absence of patronage. See Van Thiel (2012) and Van der Meer and Raadschelders (1999).

Lenin wanted to destroy the old bureaucracy, which he believed to represent bourgeois interest and be a threat to the proletarian revolution (Wright, 1974), and replace it with a bureaucracy under full control of the working class (and recruited from the ranks of its members). This desire is clearly visible in the following statement he makes in *State and Revolution* (1917):

The workers, after winning political power, will smash the old bureaucratic apparatus, shatter it to its very foundations, and raze it to the ground; they will replace it with a new one consisting of the very same workers and other employees, against whose transformation into bureaucrats the measures will at once be taken which were specified in detail by Marx and Engels... (Lenin, 2014, 150-151)<sup>54</sup>

Indeed, the Soviet leadership under Lenin developed a “mania for checking and control” (Sternheimer, 1980, 321). Accordingly, the absence of direct support by a social group can increase the desire of political rulers to maximize their influence on the state apparatus.

Since many bureaucrats were ideologically opposed to the new ruling party, the Bolsheviks faced many difficulties in subordinating the machinery of the state to their will. Direct sabotage of their work by civil servants was commonplace. These circumstances initially resulted in a large number of arrests and later the creation of an *Extraordinary Commission for Combating Counter-Revolution, Speculation, and Sabotage* (*Cheka*). This secret-police organization used terror and intimidation, including torture, prison camps, and executions, to identify and destroy opposition inside and outside of the state. Control of the bureaucracy was subsequently maximized through various institutions, especially the Communist Party apparatus (Fainsod, 1963, 389, 425-427; Gladden, 1972, 341-344; Rigby, 1972).

There was a high level of persistence in bureaucratic organization, with entry

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<sup>54</sup>Also quoted in: Wright (1974, 87).

continuously based on connections/loyalty and comparatively high levels of political control. This consistently contributed to the image of an overly large and inefficient Soviet bureaucracy (Fainsod, 1963, Ch. 4-6, 12; Gladden, 1972, 343-348; Obolonsky, 1999, 574).<sup>55</sup> The level of control was pushed to its limits under Stalin, when members of the party and administration that he perceived as not loyal were not only removed from their offices but often executed. In the judgment of many historians, Stalin's behavior, too, was driven by the perceived fragility of his regime (Baberowski, 2012; Baberowski, 2014; Hough and Fainsod, 1979, 170-178). Thus, fear of uprisings and counter-revolution shaped the political behavior of Soviet leaders, ensuring a continued interest in a maximum of political control of and through the state apparatus.

To summarize, after gaining political power, unchecked and unsupported by any strong social group, the Bolsheviks were able and incentivized to create a bureaucracy fully dominated by the Communist Party. They did not only use their formal political power but also terror and intimidation to achieve this goal. In many ways, the bureaucracy of present-day Russia is a direct successor of the Soviet administrative state. For example, in terms of personnel, there was significant continuity: Gimpel'son found in 2003 that 50 percent of all civil servants at federal-level agencies had been there since the time of Brezhnev (1964-1982) (Gimpel'son, 2003, 71, 76). Persistence of administrative culture and institutions can also be observed (Obolonsky, 1999). Thus, meritocracy remains low and political control high. As in the other cases discussed above, the organization of the present-day Russian bureaucracy cannot be explained without reference to its historical origins.

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<sup>55</sup>Deviating from Fainsod (1963), Jerry Hough developed a more pluralistic perspective on the Soviet system in Hough and Fainsod (1979). However, from a comparative standpoint, i.e. relative to other countries, the relationship between state and bureaucracy was always very hierarchical.

## 2.4.7 Summary of the Case Studies

The case studies have shown that social groups historically had considerable influence on the institutional design of bureaucracies. The middle classes generally were the strongest force for meritocracy and the reduction of political influence. On the other hand, the landed elites and the working class shared a strong interest in political control—through non-democratic versus democratic institutions, respectively. Also, while the landed elites sought high social selectivity, the working classes favored open recruitment and low educational requirements. The case of Russia presents an interesting deviation from this pattern because the absence of social-group dominance led to a bureaucracy under full control of Communist Party elites.

There is a wide range of mechanisms through which social groups pushed for their interests. (1) In Germany, the aristocracy and middle classes passed formal legislation to shape the modern bureaucracy; (2) the absence of strong party organizations allowed the Italian landed elites to exert high levels of informal political influence and establish a patronage system in the broader state apparatus; (3) in both the US and the UK, non-governmental organizations<sup>56</sup> (lobby groups) and parties were crucial to civil service reform; (4) in the Netherlands, direct control of the state by the middle classes made the institutionalization of meritocracy possible; and (5) in (Soviet) Russia, the Bolsheviks used both formal political power as well as terror to create a bureaucracy under full political domination. Thus, the case studies demonstrate that this investigation cannot be limited to a specific causal mechanism.

However, while there is no single mechanism of social-group influence, the case studies also make it clear that the classes that were successful at shaping the nascent bureaucracy always did have some form of coherent informal or formal organization.

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<sup>56</sup>Such non-governmental organizations can be found in other cases as well. However, in the US and the UK, their influence was most significant.



These structures allowed large parts or smaller subsets of these classes to come together, formulate clear interests with respect to bureaucratic organization, and then engage in collective action to shape the nascent administrative state.

**Figure 2.2: Summary of the Case Studies**

**Differences in Bureaucratic Organization - Results of the Case Studies:**

Country	Time Period of Bureaucratic Emergence	Dominant Social Groups	Resulting Bureaucratic System
Prussia/ Germany	1805-1914	Compromise of: (1) Landed elites (2) Middle classes	Intermediary level of control by non-democratic institutions through political appointments, meritocratic recruitment system with high social selectivity
Italy	1861-1914	Landed elites	High level of control through political appointments, patronage recruitment system
United States	1865-1925	Compromise of: (1) Middle classes (2) Urban working class	High level of control through political appointments, dispersed among multiple agencies, meritocratic recruitment system
Netherlands	1848-1918	Middle classes	Low level of political control, meritocratic recruitment system with relatively high degree of egalitarianism
United Kingdom	1854-1918	Compromise of: (1) Middle classes (2) Landed elites	Low level of control through political appointments, meritocratic recruitment system with high social selectivity
(Soviet) Russia	1917-1925	No social group dominance → state dominance	Very high level of control through political appointments, patronage recruitment system

## 2.5 Cross-National Analysis

In addition to the case studies, I conduct a cross-national statistical analysis. Two caveats need to be noted from the outset. First, there are many limitations to cross-country regressions (Levine and Zervos, 1993), including the possibility of finding only spurious correlations. Thus, the results of the statistical analysis have to be viewed as complements to the case studies, which demonstrate that social groups did in fact shape public institutions in accordance with the hypothesized interests

(see section 2.4). Second, as the theory does not speak to issues of colonialism and imperialism, the sample has been restricted to countries that enjoyed domestic political autonomy in the early 20th century.<sup>57</sup>

The key challenge is measuring the historical political power of social groups. For instance, we could use the seat share of parties in parliament as a proxy for the relative strength of social groups, but this and comparable measurements are associated with a variety of problems. (1) The power of parliamentary coalitions heavily depends on many other institutions (e.g., parliamentary versus presidential systems of government). (2) Most possible measurements do not account for informal power channels. Fortunately, as discussed below, a good measurement of the political power of traditional elites at the beginning of the 20th century exists, which allows me to test hypotheses 1 and 2 here.

Additionally, an empirical test of hypotheses 3 and 4 is presented in the chapter's appendix (subsection 6.1.2). Due to the ambiguous interests of the working class with respect to meritocracy, I do not include a statistical analysis of their historical influence, but I discuss their interests and impact in the case study section (section 2.4).

### 2.5.1 Key Dependent and Independent Variables

The QoG Institute provides a dataset based on expert surveys (in 2014) that includes estimates of (1) the meritocracy of recruitment and (2) the level of appointments/dismissals for many countries on a continuous 1-7 scale (Dahlström et al., 2015b). Figure 2.1 already showed the distribution of those variables. Since the empirical test is restricted to domestically autonomous countries (i.e., autonomous in the early 20th century), approximately 30 units are included. Given the bounds of

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<sup>57</sup>Ethiopia was excluded from the analysis as the historical social and economic conditions in the country do not fit the scope of this study.

the dependent variable, Tobit regression models will be used.

To measure the level of traditional/landed elite influence, I use the *inverse* of the “range of consultation variable” by the *Varieties of Democracy (VoD) Project*. This variable is based on expert answers to the following question: “When important policy changes are being considered, how wide is the range of consultation at elite levels?” The possible answers show that it measures the extent to which the traditional elites consult with the leading members of other social groups, specifically and explicitly business and labor leaders, before they make important decisions.

In the historical period under consideration, political systems, in which neither the interests of business nor labor were taken into account, were dominated by the landed elites. Thus, the *inverse* of this variable shows the extent to which the traditional elites can make important policy decisions unilaterally and without consulting other social groups. The variable is converted to an interval scale by the VoD Project (Coppedge, Gerring, Lindberg, Skaaning, Teorell, Altman, Bernhard, Fish, Glynn, Hicken, Knutsen, Marquardt, McMann, Miri, Paxton, Pemstein, Staton, Tzelgov, Wang and Zimmerman, 2016). Due to its focus on the elite level and the absence of factors such as the extent of suffrage or the system of government, this measurement should not be confused with measurements of democracy.

The analysis will be conducted for the year 1913 as, for most countries in this study, the pre-World War One period marks the climax of the emergence of modern bureaucracies (Raadschelders and Rutgers, 1996). Accordingly, the strength of social groups at this moment in time is crucial for their final shape. However, as the year in which the test is conducted is to some extent arbitrary, analyses for all years between 1910 and 1925 were conducted. With the exception of the war years (1914-1918/1919), almost all analyses produce statistically significant results. Detailed results are provided in the appendix (subsection 6.1.1).

## 2.5.2 Covariates

I need to account for additional variables, including both historical factors and more recent developments.<sup>58</sup> I control for more recent developments because their relevance is highlighted in the literature on public bureaucracies, but this could lead to post-treatment bias. Due to the possibility of post-treatment bias, I always present results both with and without controls and readers are advised to be cautious when interpreting the results of models with controls. Fortunately, the results hold regardless of specification.

Due to the very small number of observations, which is 30 or less in most cases—meaning a very low number of degrees of freedom—I introduce at most two explanatory variables simultaneously. In the following paragraphs, I elaborate on the different covariates:

**Divided Party Control of Government:** If the government is controlled by multiple parties, there is greater likelihood of policy conflict, which could increase the degree of political control (Huber and Shipan, 2002). Alternatively, political competition among the branches of government controlled by different parties could also reduce the ability or incentives of politicians to control the bureaucracy (Johnson and Libecap, 1994; Lewis, 2003; Wood and Bohte, 2004). The variable represents the country-specific average as of 1990 (Coppedge et al., 2016).

**Legislative Party Cohesion:** How cohesively party members vote for policies could serve as a proxy for the organizational coherence of parties. A high level could indicate ability for political control. The variable represents the country-specific average as

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<sup>58</sup>I do not include covariates for GDP or level of democratization because those measurements would be highly correlated with the political power of the middle classes and the urban working class, respectively. As such, their inclusion would lead to high multicollinearity with measurements of social-group power.

of 1990 (Coppedge et al., 2016).

**Militarized Interstate Dispute (MID) Count:** Military conflicts could push countries to modernize their bureaucracies (Ertman, 1997; Tilly, 1990). Therefore, the number of militarized interstate disputes a state was involved in (1863-1913) is included (Jones, Bremer and Singer, 1996).

**University Students:** Historically high levels of educated citizens could change the incentives of governments to introduce meritocratic recruitment (Hollyer, 2011). Similar incentives could also apply in the present (Hollyer, 2009). Therefore, two different covariates capturing the number of university students per 100,000 people are included. The first one refers to the historical level in 1913, the second one to the average after 1990 (Coppedge et al., 2016; Vanhanen, 2003).

**Table 2.1:** Descriptive Statistics: Empirical Analysis of Chapter Two

Variable	n	Min	q <sub>1</sub>	$\bar{x}$	$\tilde{x}$	q <sub>3</sub>	Max	IQR
Meritocracy	27	2.58	3.29	4.67	4.78	5.88	6.46	2.59
Political Control	27	1.50	3.91	4.73	5.00	5.72	6.50	1.81
Inv. of Elite Consult. (1913)	29	-1.67	-0.71	0.03	-0.08	0.91	2.24	1.62
Div. Party Ctrl. (Avg.)	28	-1.02	-0.21	0.18	0.24	0.59	1.39	0.80
Leg. Party Coh. (Avg.)	28	-2.14	0.17	0.76	1.05	1.47	2.46	1.30
MID Count (1863-1913)	21	1.00	2.00	21.81	18.00	29.00	75.00	27.00
Univ. Students (1913)	25	1.00	4.00	7.10	6.50	8.50	34.50	4.50
Univ. Students (Avg.)	28	1.00	35.46	45.30	47.42	55.64	100.00	20.17

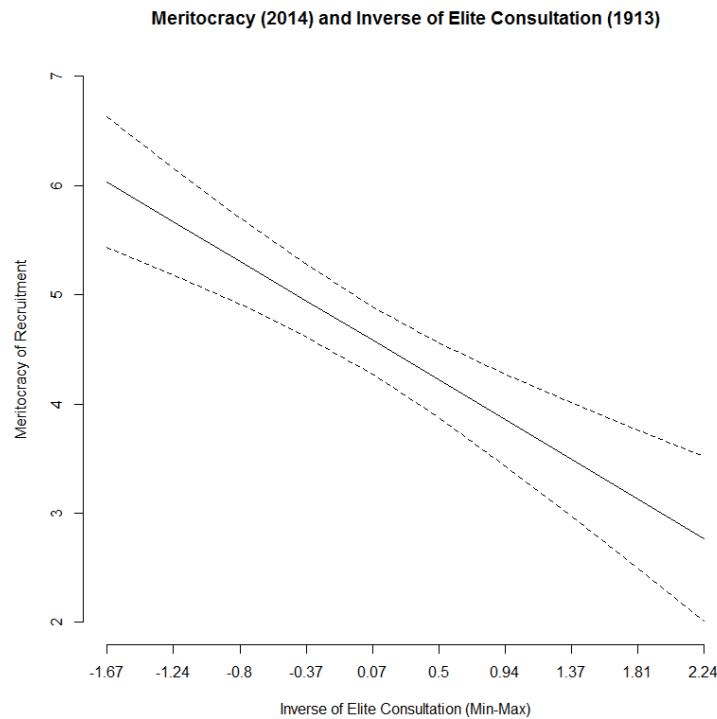
### 2.5.3 Results

The results show that the inverse of the range of elite consultation in 1913—as a proxy for the political power of the traditional elites—is strongly negatively associated with the present-day level of meritocracy in recruitment and strongly positively related to the present-day level of political appointments. These results

provide substantial complementary evidence in support of the theory introduced here. Further details can be found in Figure 2.3, Figure 2.4, Table 2.2, and Table 2.3. As mentioned earlier, additional analyses were conducted for a large number of years and detailed results are included in the appendix (subsection 6.1.1).

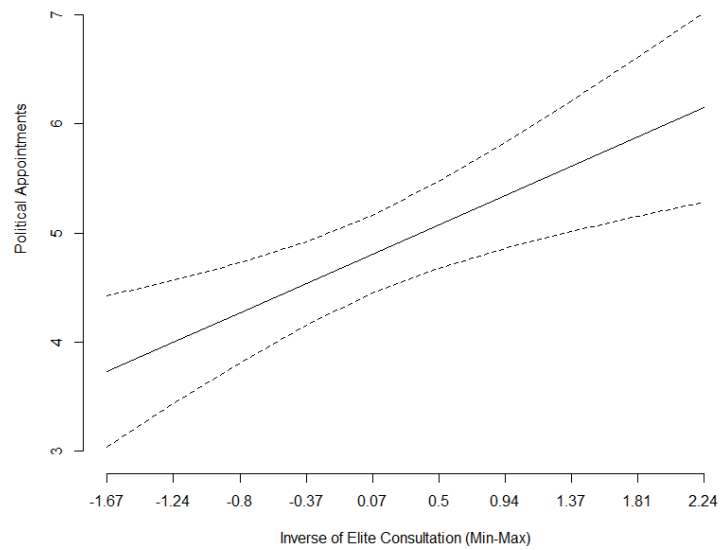
In any statistical analysis that relies on observational data, there is the danger of finding a spurious correlation. This danger is also present here. Furthermore, I cannot perfectly identify causality through the regressions above. Thus, we need to combine the empirical analysis with additional evidence from the case studies to provide stronger support for the theory.

**Figure 2.3:** Meritocracy of Recruitment (2014) and the Inverse of the Range of Consultation (1913) from Empirical Min. to Max. (90% Conf. Int.)



**Figure 2.4:** Political Appointments (2014) and the Inverse of the Range of Consultation (1913) from Empirical Min. to Max. (90% Conf. Int.)

**Political Appointments (2014) and Inverse of Elite Consultation (1913)**



**Table 2.2:** Merit Recruitment (2014) and the Inverse of the Range of Consultation (1913)

	<i>Dependent variable:</i>					
	Merit Recruitment (QOG)					
	(1)	(2)	(3)	(4)	(5)	(6)
Inv. of the Range of Consult. 1913	-0.835*** (0.186)	-0.811*** (0.197)	-0.745*** (0.189)	-0.836*** (0.235)	-0.766*** (0.234)	-0.710*** (0.192)
Div. Party Ctrl. <i>Avg.</i> 1990–		0.049 (0.351)				
Leg. Party Coh. <i>Avg.</i> 1990–			0.267 (0.188)			
MID Count 1863–1913				0.005 (0.010)		
University Students 1913					0.023 (0.034)	
University Students <i>Avg.</i> 1990–						0.017 (0.010)
Constant	4.637*** (0.188)	4.656*** (0.206)	4.445*** (0.243)	4.451*** (0.311)	4.534*** (0.305)	3.885*** (0.516)
Observations	28	27	27	21	25	27
Log Likelihood	-39.551	-38.309	-37.353	-29.929	-35.181	-37.067

*Note: Tobit Regression*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



**Table 2.3:** Political Appointments (2014) and the Inverse of the Range of Consultation (1913)

	<i>Dependent variable:</i>					
	Political Appointments (QOG)					
	(1)	(2)	(3)	(4)	(5)	(6)
Inv. of the Range of Consult. 1913	0.616*** (0.215)	0.598*** (0.230)	0.515** (0.215)	0.538** (0.246)	0.709** (0.283)	0.584** (0.234)
Div. Party Ctrl. <i>Avg.</i> 1990–		0.058 (0.409)				
Leg. Party Coh. <i>Avg.</i> 1990–			–0.410* (0.213)			
MID Count 1863–1913				0.002 (0.010)		
University Students 1913					0.029 (0.041)	
University Students <i>Avg.</i> 1990–						–0.004 (0.013)
Constant	4.765*** (0.217)	4.743*** (0.240)	5.096*** (0.275)	4.690*** (0.325)	4.564*** (0.368)	4.936*** (0.629)
Observations	28	27	27	21	25	27
Log Likelihood	–43.552	–42.451	–40.729	–30.881	–39.927	–42.414

*Note:* Tobit Regression

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## 2.6 Conclusion

This chapter presents and tests a novel theory of how social constellations in the 19th and early 20th centuries have an impact on present-day bureaucracies. The middle classes historically were the strongest force for meritocracy and low political control. On the other hand, the working class and the traditional elites typically pushed for high control through democratic and non-democratic institutions, respectively. While the landed elites generally aimed for high social selectivity, the working class had more ambiguous interests—simultaneously seeking lower educational requirements and more open recruitment. The case studies have demonstrated that many different mechanisms, ranging from formal party organizations to terror and intimidation, were used to shape bureaucratic organization. Due to high levels of path dependence in public administrations, the historical outcomes still largely determine variations we observe today.

I conducted this study in response to several gaps and weak spots in the existing literature. First, many previous studies treat political control and meritocracy as two sides of the same concept. However, as discussed in detail above, there is a more complex interaction between them. In order to understand this interaction, we need to develop a theory that can account for more than just two outcomes. Second, while several contributions have indirectly touched upon social groups, the explicit interests that they have with respect to bureaucratic institutions remained under-theorized. Furthermore, even though there are many excellent studies on American bureaucratic history, the limited scope of these studies often reduces their comparative explanatory power. This chapter addresses all of the points above by considering the complex interaction of bureaucratic institutions, explicitly theorizing about the interests of social groups, and analyzing multiple cases from a comparative perspective. A cross-sectional empirical test complements the case studies.

What are the implications of these results? Most importantly, other aspects of the modern state, including educational systems and military institutions, may be subject to similar historical dynamics. Future investigations could look at these and other aspects of the modern state and examine the extent to which they were shaped by social groups. Additionally, the insights from this chapter may be of special relevance to political actors in developing countries, especially in places that currently suffer from low meritocracy and bureaucratic inefficiency. Identifying the social groups that have the greatest interest in bureaucratic reforms could open political opportunities for administrative reform.

In addition to the extraordinary path of bureaucratic development in the Soviet Union, there are a few additional outliers that could be looked at in future investigations. The case of Belgium does not fully meet the scope conditions of this study insofar as the country developed a modern bureaucracy somewhat later than other

states—in the 1920s and 1930s (Thijs and Van de Walle, 2005). At this time, the landed elites had already been marginalized as a political force and the working class had become a central actor in the political system (Witte, Craeybeckx and Meynen, 2009, esp. 97, 100-101). Accordingly, Belgium would be an interesting case to look at if the preferences of workers change when the overall configuration of social groups changes. Similarly, bureaucratic modernization taking place in other world regions in the present day could be subject to greater influence by workers and their political representatives.<sup>59</sup> Therefore, these are appropriate cases for future analyses.

Some critics might argue that my approach neglects the many reforms that bureaucracies experienced later, such as a general trend of “politicization” (Peters and Pierre, 2004). This criticism is valid. However, cross-country variation in terms of meritocracy and political control is so remarkable that within-country changes over time are comparatively small. Additionally, even if there are general trends that affect many bureaucracies, the *point of departure* still matters. The case studies have illustrated these points in detail. Nevertheless, future research could explore the interaction of initial configurations and subsequent reforms more directly. Such an assessment could be part of a deeper investigation of path dependence based on the mechanisms outlined above. Similarly, the long-term effects that the World Wars had on public administrations would be a worthwhile additional area of investigation.<sup>60</sup> Finally, my previous analysis cannot account for regional differences in bureaucratic characteristics (Charron, Dahlström and Lapuente, 2016; Folke, Hirano and Snyder, 2011; Krause, Lewis and Douglas, 2006). However, this topic will be investigated in significant detail in the next chapter.

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<sup>59</sup>In particular, consider the work by Slater (2008) on the influence of competitive elections and mass parties (which may include parties supported by previously marginalized populations, such as working-class parties) on state building.

<sup>60</sup>A good point of departure for such an endeavor might be the edited volume by Rugge (2000).

## Chapter 3

# Imperial Rule, the Imposition of Bureaucratic Institutions, and Their Long-Term Legacies

### 3.1 Introduction

As I have shown in the previous chapter, bureaucratic organization varies significantly across countries, including substantial divergence in key attributes, such as meritocracy in recruitment (Dahlström, Teorell, Dahlberg, Hartmann, Lindberg and Nistotskaya, 2015a; Dahlström and Lapuente, 2017; Dahlström, Lapuente and Teorell, 2012). This variation matters for many reasons—one being that bureaucratic quality has an impact on economic and human development (Evans, 1995; Evans and Rauch, 1999; Mauro, 1995), which makes the study of bureaucratic performance particularly important to scholars interested in developing countries and former colonies. In addition to the substantial cross-national variation that was discussed in chapter two, even across regions *within the same country*, there is often divergence in bureaucratic institutions and efficiency (Charron, Dahlström and Lapuente, 2016; Folke, Hirano and Snyder, 2011; Krause, Lewis and Douglas, 2006). Could imperial legacies contribute to this variation?

Scholars have already discovered lasting effects of empires and colonial powers in many other dimensions,<sup>1</sup> including legacies of legal systems (La Porta et al., 1997; La Porta et al., 1998), slavery (Nunn, 2008), trade relationships (Galtung, 1971),

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<sup>1</sup>In addition to *direct* legacies of foreign rule, there might even be *indirect* impacts of colonial pressures on formally independent states (Paik and Vechbanyongratana, 2019).

and political as well as economic institutions (Acemoglu, Johnson and Robinson, 2001; Acemoglu, Johnson and Robinson, 2002; Banerjee and Iyer, 2005; Iyer, 2010; Nathan, 2019; Paine, 2019).<sup>2</sup> However, few scholars have looked at long-term effects on *bureaucratic* institutions. Existing studies often do not measure bureaucratic characteristics directly, but instead focus on perceptions (Becker et al., 2016) or social, political, and economic consequences thereof, including the quality of public goods (Lange, 2004; Lee and Schultz, 2012; Mkandawire, 2010). Furthermore, high levels of unobserved heterogeneity and the potential of non-random selection into treatment are problems of many existing studies on administrative legacies that could be addressed in a rigorous research design.

The small number of studies exploring the specific relationship between imperialism and public administration is surprising for three reasons. First, an extensive body of literature highlights the relevance of bureaucracies for governing (Gailmard and Patty, 2012; Geddes, 1994; Peters, 2001), analyzing the importance of administrative law (McCubbins, Noll and Weingast, 1987; McCubbins, Noll and Weingast, 1989), political appointments (Lewis, 2003), and the role of civil servants in the law-making process (Huber and Shipan, 2002). Second, in comparison with legal systems, the character of a country's public administration may be a superior explanation for differential levels of development (Charron, Dahlström and Lapuente, 2012). Third, bureaucratic institutions are one of the most powerful tools for controlling people (Eisenstadt, 1993), and are thus a fundamental aspect of imperial rule.

Within the colonial origins literature, there has been a debate regarding the long-term effects of centralized versus decentralized rule. For example, Lee and Schultz

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<sup>2</sup>Arias and Girod (2014) and Hariri (2012) criticize this literature by emphasizing the importance of pre-colonial institutions (see also Wilfahrt (2018) for an analysis of the long-term impact of pre-colonial identities). Yet in the case of Poland, the imperial borders under consideration did not systematically separate areas with diverging institutions, and 123 years of foreign rule led to the comprehensive replacement of previous administrative structures.

(2012) argue that decentralized British rule in Cameroon, which gave significant power to local actors, had positive long-term effects on public goods provision. Similar findings are obtained by Iyer (2010) with respect to India. However, Lange (2004) finds that indirect rule had negative consequences for several development indicators. These results are echoed by Pierskalla, Schultz and Wibbels (2017), who argue that exposure to central political authority has positive developmental effects. Such findings are related to a broader literature on different types of colonial rule (Gerring, Ziblatt, Van Gorp and Arevalo, 2011). Building on this debate, a second question I seek to shed light on is: Does decentralized imperial rule result in better long-term bureaucratic performance?

To address the questions raised above, I use an original dataset of bureaucratic characteristics in Poland. The dataset is based on a survey with more than 650 Polish local administrations. Poland is an ideal setting for exploring imperial legacies because, for 123 years (1795-1918), its entire present-day territory was divided among “three very different Empires” (Lukowski and Zawadzki, 2006, 211). Figure 3.1 shows both the imperial borders of 1815-1914 and the boundaries of contemporary Poland. Multiple studies support the claim of quasi-randomness of the imperial borders (Becker et al., 2016; Bukowski, 2019; Grosfeld and Zhuravskaya, 2015),<sup>3</sup> which allows for the use of a geographic regression discontinuity design (RDD), amongst other empirical tools. The period of foreign rule also includes the years 1850-1918—a time seen as crucial for the development of modern bureaucracies (Carpenter, 2001; Raadschelders and Rutgers, 1996; Silberman, 1993).

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<sup>3</sup>Furthermore, in the appendix (subsection 6.2.1), I show that differences in pre-treatment characteristics are either small or insignificant. ‘Pre-treatment’ refers to the time period before the partitioning of Poland (i.e., ‘pre-partitioning’).

**Figure 3.1:** Imperial Partition of Poland (1815-1914) (This map is partly based on the following source: © EuroGeographics for the administrative boundaries.)



Another reason Poland is an appropriate case for a study on imperial legacies in bureaucratic organization is that its communist regime (1948-1989), which controlled the country in the aftermath of World War Two, aimed for complete administrative homogenization and used repression and political control to achieve its goals (Hoen-sch, 1990, esp. 308-310; Lukowski and Zawadzki, 2006, Ch. 7; Majcherkiewicz, 2008, 143, 148-149; Prazmowska, 2011, esp. 196-199, 210). Thus, four decades of communist repression and control would go far in wiping out imperial legacies, making a study of Poland a hard case for testing the long-term effects of foreign rule.

I find substantial regional variation in the performance of public administrations across Poland. Specifically, even though public administrations within the country are expected to deliver the same outputs (based on the organizational tasks assigned to them), the number of employees they need to conduct those tasks shows great regional variation. Multiple empirical techniques—including geographic RD analysis



and matching—reveal that imperial legacies affect bureaucratic performance in multifaceted ways. Public administrations in the Russian partition are characterized by the lowest levels of efficiency and meritocracy, indicating that there are still negative long-term effects of their highly corrupt and inefficient historical institutions. Moreover, I find some (but not conclusive) evidence that the Austrian bureaucracy is more efficient than both the Russian *and* the Prussian bureaucracy, lending additional limited support to the view that decentralized rule has positive developmental effects in the long run.

This chapter is organized as follows. First, I present a comprehensive literature review. Then, I discuss differences in the imperial bureaucracies and conclude with multiple hypotheses. After the historical background section, I focus on the mechanisms of path dependence that could account for persistence in bureaucratic characteristics. In the empirical section, I introduce my research design, dataset, and multiple techniques of empirical analysis. Subsequently, the results of the empirical analyses are discussed. Following the conclusion, a large body of additional discussions, robustness checks, etc. is included in the appendix (section 6.2).

## 3.2 Imperial Legacies in Public Administration

Why would we expect legacies of empires in public administrations? The characteristics of bureaucracies are known for being highly persistent, with qualitative and anecdotal evidence coming from France (North, Wallis and Weingast, 2009, 220), Britain (Richards, 2003), Germany (Wunder, 1986), the US (Carpenter, 2001), Russia (Gimpel'son, 2003), and several comparative studies (Painter and Peters, 2010*b*; Silberman, 1993).<sup>4</sup> These insights can be placed within a broader literature on the

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<sup>4</sup>See also chapter 2.

persistence of social institutions (David, 1994; Greif, 1998; Mahoney, 2000; Raadschelders, 1998).

Given the relevance of bureaucracies for economic development (Evans, 1995), particularly the effects of recruitment procedures (Dahlström, Lapuente and Teorell, 2012; Evans and Rauch, 1999), the shortage of studies by political economists on imperial legacies in public administration is surprising. Notable exceptions include a study by Becker et al. (2016) who show that public trust in courts and the police as well as experiences of corruption vary across the historical borders of the Habsburg monarchy. Moreover, Lee and Schultz (2012) demonstrate that access to water differs between households located in the formerly French and British parts of Cameroon. However, these are not *direct* measurements of bureaucratic characteristics, but rather measures of *perceptions* and *consequences*.

Furthermore, Lange (2004) investigates the long-term effects of direct versus indirect rule on political development. He finds that countries that were subject to indirect rule often produced a decentralized despotism with ineffective public administrations. Similarly, Mkandawire (2010) and Feger and Asafu-Adjaye (2014) claim that present-day differences in taxation are influenced by colonial administrative institutions and policies. These cross-national studies typically suffer from high levels of unobserved heterogeneity in the units of analysis and/or potential non-random assignment into the treatment. Such weaknesses should be addressed through a research design that comes closer to random assignment into treatment conditions.

More comprehensive work on the relationship between imperialism, bureaucracies, and development exists in the field of public administration (La Palombara, 2006), for example on Africa (Burke, 1969; Heyen, 2006), British legacies in the Asia-Pacific region (Patapan, Wanna and Weller, 2005), the impact of wars (Rugge, 2000), and

Napoleonic rule (Wunder, 1995).<sup>5</sup> Little quantitative evidence on imperial legacies, however, is provided by the discipline of public administration. It would be desirable to combine qualitative and quantitative evidence in a rigorous research design to comprehensively assess the persistence of bureaucratic characteristics.

Considering the weak spots of existing articles, as described in the introduction, this study exploits the quasi-randomness of imperial borders in Poland to assess the long-term impact of external rule on present-day public administrations. Due to a common language and legal-institutional framework, unobserved heterogeneity in the units of analysis is not as significant a problem here as in many other cases (e.g., Lange, 2004; Mkandawire, 2010). Contrary to most existing studies, I also measure bureaucratic characteristics *directly* instead of measuring perceptions or consequences thereof.

Empirically, I focus on measurements of efficiency and meritocracy. A public administration is more efficient if it requires fewer human or financial resources to achieve the same outcomes. Moreover, a high level of meritocracy means that a public administration is able to attract a large pool of applicants, increasing competitiveness of recruitment. A high level of meritocracy in recruitment has been shown to lower corruption (Dahlström, Lapuente and Teorell, 2012), and to increase economic growth (Evans and Rauch, 1999) and business entry rates (Nistotskaya and Cingolani, 2016).<sup>6</sup> I discuss the operationalization of those concepts below (section 3.3).

A number of related studies assess historical legacies in Poland. Grosfeld and Zhuravskaya (2015) find several discontinuities at the former imperial borders. Specifically, the formerly Prussian parts experience stronger support for anti-communist

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<sup>5</sup>On the consequences of Napoleonic rule, see also Acemoglu, Cantoni, Johnson and Robinson (2011) and Buggle (2016).

<sup>6</sup>On the flipside, Xu (2018) shows that patronage has multiple negative effects on the performance of high-level administrators in the British Empire.

parties, whereas people in the formerly Austrian parts vote for more conservative and religious parties (compared to the Russian parts). Similarly, Bukowski (2019) finds that, in the vicinity of the historical borders, students in the Austrian partition score significantly higher on tests than students in the Russian partition. Moreover, Ekiert and Hanson (2003) analyze communist legacies in Poland and other Eastern European states, and Pop-Eleches and Tucker (2011) discuss different pathways through which those legacies persist. Finally, Cramsey and Wittenberg (2016) show that Polish elites forcefully ‘polonized’ minority groups in the interwar period, and Bernhard (1993) investigates the origins of the Polish democratic opposition under socialism. Further studies on the legacies of historical events include a contribution by Nalepa and Pop-Eleches (2019), who investigate the effects of population resettlements on the ability of the Communist regime to infiltrate the Catholic church, and research by Charnysh (2015), showing how historically-rooted levels of antisemitism influence the attitudes of people towards EU policies. While all of these studies have uncovered historical legacies, ranging from imperial rule to post-war politics, none of them focuses on bureaucracy.

### **3.3 Historical Background: the Case of Divided Poland**

I now turn to an overview of Poland’s history and the imperial partitions, beginning with a discussion of the border placements to make the case for a geographic RDD and including an analysis of the administrative systems of the three imperial powers.

### 3.3.1 The Placement of the Imperial Borders

When Poland was divided in 1795 and 1815, the borders were placed without “the consideration of historical, ethnic, economic, or geographic factors” (Hoensch, 1990, 180).<sup>7</sup> The placement primarily reflected the overall balance of power, did not overlap with any previous administrative boundaries, and even split several large estates. For these and other reasons, Grosfeld and Zhuravskaya (2015, 59) conclude that “there is no reason to believe that social and economic outcomes at that time exhibited any jumps at the established frontiers.” Moreover, Grosfeld and Zhuravskaya (2015, 56-60), “using a wide list of geographic characteristics,” do not find significant jumps in those characteristics across the borders, with the exception of a minor jump in elevation between Austria and Russia.<sup>8</sup> Becker et al. (2016) use data on medieval city size, access to trade routes, and presence of a medieval diocesan town to support the notion that the Habsburg imperial border was quasi-random. In the appendix (subsection 6.2.1), I use the same data to compare pre-treatment (i.e., pre-partitioning) characteristics across the partitions. These tests provide further support for the claim of quasi-randomness.

### 3.3.2 The Prussian Administrative State

In the 19th century, the Prussian administrative state was characterized by a high level of efficiency and meritocracy (Bleek, 1972; Dorn, 1931). A rigorous legal framework governed its operation, a law degree was required for public service, competitive examinations were held, and an independent commission had to approve all applicants (Bleek, 1972; Mann, 1993, 449-450; Raphael, 2000, 53-57). Thus, the

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<sup>7</sup>Translated by the author (J.P.V.).

<sup>8</sup>While Bukowski (2019) finds some minor geographic differences, he nevertheless concludes that their influence on culture or institutions can be seen as negligible.

Prussian bureaucracy was among the most modern in the world (Bleek, 1972; Dorn, 1931; Raphael, 2000, 53-57; Wunder, 1986, 21-22).<sup>9</sup> Moreover, Prussian bureaucrats enjoyed a reputation of “incorruptibility” (Davies, 2005, 85). Accordingly, Prussia’s bureaucracy was “extremely well organised and efficient” (Prazmowska, 2011, 131).

Beginning in 1794, Prussian administrative structures, including Prussian laws (*Preußisches Landsrecht*), were imposed on Poland’s western territories (Hoensch, 1990, 181; Lukowski and Zawadzki, 2006, 137; Prazmowska, 2011, 131; Wandycz, 1975, 14-15). After 1815, limited autonomy was given to the province of Posen (Poznań) (Biskupski, 2000, 26; Lukowski and Zawadzki, 2006, 155; Wandycz, 1975, 65-69), including the hiring of Polish administrators (Heyde, 2006, 59). However, even Poznań was eventually integrated into the German Empire. In 1876, a new policy of *Germanization* began, imposing German legal and cultural institutions and making German the official language of the administration, the courts, and most schools (Heyde, 2006, 73; Lukowski and Zawadzki, 2006, 183-184; Prazmowska, 2011, 154-155).

### 3.3.3 The Austrian Administrative State

In the 18th century, Austria implemented a series of reforms aimed at creating a more efficient administration (Kann, 1974, 174-178, 183-187; Raphael, 2000, 58). The result was that it had “a relatively well-functioning, respected bureaucracy” (Becker et al., 2016, 41). Taylor (1948, 38) describes the bureaucracy as hardworking and honest but also points out that it suffered from some flaws common to most modern administrations. Although reforms stalled in the 19th century and corruption could not be entirely eliminated (Raphael, 2000, 58-59), the bureaucracy was comparatively meritocratic, offering positions and promotions to non-noble candidates (Judson,

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<sup>9</sup>See also chapter 2 (section 2.4) for a detailed investigation.

2016, 58-61). Accordingly, the Habsburg bureaucracy was relatively efficient but also had certain weaknesses (Deak, 2015).

In the 1780s and 1790s, Austria introduced its administrative system to its newly acquired territories (in Galicia) (Lukowski and Zawadzki, 2006, 137; Wandycz, 1975, 12), also implementing political censorship and repression (Davies, 2005, 104; Prazmowska, 2011, 132). In the first half of the century, Austria made few concessions to the Poles (Lukowski and Zawadzki, 2006, 156) and its administration put a heavy tax burden on the relatively poor region (Wandycz, 1975, 71). After 1815, Austria retained Old Galicia and the contested city of Krakow became a republic under the protection of Prussia, Russia, and Austria—a status that lasted until 1846 (Lukowski and Zawadzki, 2006, 147).

Despite the initially high levels of repression, Vushko (2015) argues that not all Austrian bureaucrats had an antagonistic relationship with the local population—instead, some developed strong ties to local elites. Furthermore, the 1848 revolution led to a first set of progressive reforms by Vienna (Prazmowska, 2011, 144). Additionally, following major military defeats of Austria in 1859 and 1866 (Kennedy, 1988, 163-166), significant levels of self-governance by the Poles were allowed (Biskupski, 2000, 28; Borodziej, 2010, 14; Davies, 2005, 109-111; Lukowski and Zawadzki, 2006, 184-185; Prazmowska, 2011, 155-157). This new strategy included both the local control of bureaucracies and the presence of Galician representatives in Vienna (Borodziej, 2010, 37; Grosfeld and Zhuravskaya, 2015, 56; Roszkowski, 1992, 159-160; Vushko, 2015).<sup>10</sup> Accordingly, the public administration in Galicia was characterized by substantially higher levels of decentralized control, which was appreciated by the Poles (Kennedy, 1988, 217).

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<sup>10</sup>The Dutch and English empires also often relied on local elites for governing occupied territories.

### 3.3.4 The Russian Administrative State

In direct comparison with Austria and Prussia, Russia had a highly inefficient public administration (Davies, 2005, Ch. 2; Grosfeld and Zhuravskaya, 2015, 56; Raphael, 2000, 67-75). Both social selectivity and patronage were much more predominant than in Prussia or Austria, while aspects of meritocratic recruitment (i.e., educational requirements, competitive examinations, and independent commissions) were either underdeveloped or non-existent. Thus, the levels of meritocracy and efficiency were significantly lower than in the Prussian and Austrian bureaucracies, whereas corruption and arbitrariness were omnipresent (Baberowski, 2014, 17-25; Davies, 2005, Ch. 2; Raphael, 2000, 67-71).<sup>11</sup> Moreover, the hierarchical, military-like administrative structures systematically undermined personal initiative (Davies, 2005, 70-71), and “[e]specially at the lower levels, the bureaucracy was radiantly corrupt” (Davies, 2005, 78). In general, “Russia was ... characterized by the least efficient administrative apparatus ... of the three empires” (Grosfeld and Zhuravskaya, 2015, 56).

When Russia first acquired territory in Poland, it created new administrative provinces called *gubernias* (Davies, 2005, 65; Wandycz, 1975, 18). However, because of both a “shortage of Russian administrators” and the absence of “a body of codified laws” (Prazmowska, 2011, 133)—associated with the inability to build a modern public administration—Russia was initially unable to pursue a policy of *Russification* (Lukowski and Zawadzki, 2006, 136). This also meant that the extent and quality of public goods was severely restricted compared to Prussia or Austria (Grosfeld and Zhuravskaya, 2015, 60).

The Kingdom of Poland, founded after 1815, initially enjoyed administrative au-

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<sup>11</sup>See also the short description of the Russian bureaucracy in the 19th century in chapter 2 (section 2.4).



tonomy but this status ended when an uprising occurred in 1830/31, leading to a period of repression (Biskupski, 2000, 24-26; Borodziej, 2010, 13-14; Heyde, 2006, 57-62; Lukowski and Zawadzki, 2006, 147-150, 156; Prazmowska, 2011, 137-143; Wandycz, 1975, Ch. 6). Russia maintained the Kingdom as an administrative unit of its core state but simultaneously “abolished the constitution, the Sejm [parliament] and the Polish army” (Lukowski and Zawadzki, 2006, 162). This was a major defeat to Polish desires for self-governance. Subsequently, the Russian army policed Poland with the aim to prevent another military uprising (Kennedy, 1988, 172).

The Crimean War (1854-1856) led to administrative reforms in Russia. The central state began to monitor local governments more actively. This did little to cure the inefficiency and corruption, which in turn placed a great burden on the partition’s underdeveloped economy (Raphael, 2000, 72-75). In part due to the war, Russia also made limited concessions to the Poles (Lukowski and Zawadzki, 2006, 174; Prazmowska, 2011, 145-146). Perceiving the Russian state to be weakened, the Poles began another armed rebellion against Russian rule in 1863, which was ultimately defeated (Biskupski, 2000, 27). As a consequence, previous concessions were dramatically scaled back and Russian was introduced as the official language of the administration, schools, and the courts (Borodziej, 2010, 14; Davies, 2005, 74-75, 78-81; Heyde, 2006, 72; Lukowski and Zawadzki, 2006, 182-183; Prazmowska, 2011, 146-149; Roszkowski, 1992, 159). Russia then forcefully “pursued policies aimed at full standardization, conformity, and assimilation without any regard to the Polish culture and traditions” (Grosfeld and Zhuravskaya, 2015, 60).

### **3.3.5 Operationalizing Efficiency and Meritocracy**

Accordingly, stark differences in both the level of efficiency and the level of meritocracy can be observed in the Prussian, Austrian, and Russian administrations. In

this section, I focus on how we can operationalize these theoretical concepts to assess possible imperial legacies in the present day.

**Operationalizing Efficiency:** When measuring efficiency, we can focus on input or output factors. In the case of present-day Polish communes, a focus on input factors is more appropriate for the following reasons. With the exception of county-level (*powiat*) cities, communes in the territory of present-day Poland have the same legally required set of outputs in terms of public goods and services (which we may think of as ‘organizational tasks’). Those include, for example, waste management, the maintenance of roads, and fire protection. A complete list is included in the appendix (subsection 6.2.2). Powiat-level cities provide additional services to citizens, such as issuing vehicle registration certificates. Given the uniformity of expected outputs that public administrations are required to deliver in the present day, I use the number of public administrators per 1,000 inhabitants as a measure of inputs (of human resources). From an input-centered perspective, a more efficient public administration needs fewer employees to fulfill the standard set of organizational tasks.<sup>12</sup> Some geographic characteristics might influence the use of public services (and thus the number of required civil servants), but there are no significant geographic differences at the imperial borders (Grosfeld and Zhuravskaya, 2015, 56-60).<sup>13</sup>

The measurement of efficiency used in this chapter is not novel. If the expected outputs are held constant, the size of administrative organizations in terms of personnel—as the key input factor—is often considered a possible measure for their efficiency (Cameron, 1994; Diaz, 2006; Rama, 1999). Studies also show that

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<sup>12</sup>This does not imply that a number of zero employees is optimal. The optimal number is the lowest number at which the state is able to deliver the entire set of legally prescribed public services.

<sup>13</sup>This measurement cannot be applied in the same exact way to periods when the legal framework had not been homogenized yet. For such a historical comparison, we also need to take the outputs in terms of provided public goods and services into account. I further elaborate on this issue in the section on inter-temporal transmission mechanisms (section 3.4).

larger public bureaucracies are often associated with more corruption (Dininio and Orttung, 2005; LaPalombara, 1994, 338; Riley, 1998) and lower levels of economic growth (Libman, 2012), strongly supporting the notion that—holding all else, and especially output factors, constant—personnel size is a good measurement for administrative efficiency.<sup>14</sup>

**Operationalizing Meritocracy:** In line with the argument that meritocracy has a strong impact on bureaucratic efficiency (Dahlström, Lapuente and Teorell, 2012; Evans and Rauch, 1999), Calvo and Murillo (2004) and Diaz (2006, 217) imply that larger (or less efficient) bureaucracies could also suffer from patronage recruitment.<sup>15</sup> But how can I more directly measure meritocracy? Meritocracy is associated with the level of selectivity in the application process, including the number of applicants per job. Therefore, I use two indicators: The first indicator I use is the number of applicants relative to the number of job openings at the level of the clerk (*urzednik*). More candidates per job increase the competitiveness/selectivity of the recruitment procedure. This measurement reflects both (1) the efforts of the public administration to find qualified candidates and (2) the attractiveness of working there. In places where efforts to find qualified candidates are low and in places where the public administration is seen as inefficient/not prestigious, it attracts fewer candidates. The operationalization used for the second dimension of interest is not novel as well. For instance, with respect to the American college system, the number of applicants per position is considered a good measurement of competitiveness (Jackson,

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<sup>14</sup>Even if communes have to *formally* deliver the same set of outputs, there might be factual differences in the quality of services. Unfortunately, key output measures of service provision are only available for a subset of communes. In the appendix (subsection 6.2.3), using this subset of the data, I empirically demonstrate that a larger number of employees is not associated with superior quality in the provision of services in these specific areas. Furthermore, I discuss the use of the measurement (employees per capita) in the literature on state building (subsection 6.2.4).

<sup>15</sup>In the appendix (subsection 6.2.3), I empirically demonstrate that this relationship exists.

2016; Pérez-Peña, 2014).

The second measurement is the number of distinct channels that a bureaucracy uses to advertise open positions (e.g., on their website, in stores, or in newspapers). An administrative culture with high levels of meritocracy is reflected by extensive advertisement of positions to attract the most qualified candidates. Local public administrations are legally required to advertise open positions on their website, but further advertisements are at their discretion.<sup>16</sup>

### 3.3.6 Accounting for Interwar Germany

I need to account for an important historical development that could have an influence on my analysis. After World War Two, many borders shifted. These changes included the boundaries of Poland and Germany. Formerly Prussian lands with German majorities were given to Poland. Associated with these transfers were massive population resettlements, primarily from the Eastern parts of Poland (the Russian partition and Eastern Galicia) to communes that had been part of Interwar Germany (Biskupski, 2000, 123-125; Lukowski and Zawadzki, 2006, 278-279; Prazmowska, 2011, 192-196).

Due to these comprehensive resettlements, I cannot simply treat communes of Interwar Germany in the same way as the Prussian communes that became independent after World War One (which typically had a Polish population majority). Since my mechanisms of inter-temporal transmission rest on socio-cultural factors (see section 3.4), I would expect significant differences between the communes of Prussia that belonged to Interwar Poland and those that belonged to Interwar Germany. Accordingly, I need to take this factor into account in the empirical analysis.

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<sup>16</sup>In addition to this theoretical discussion, I provide further empirical justifications for the chosen variables in the appendix (subsection 6.2.3).

### 3.3.7 Summary and Hypotheses

To summarize, in relative terms, Prussia had a highly efficient and meritocratic public administration. Austria's administration was comparatively efficient and meritocratic, but was characterized by significantly higher levels of local autonomy and administrative decentralization. Finally, Russia's public administration clearly was the least efficient and the least meritocratic of the three empires.

The low level of meritocracy and efficiency in the Russian administration—also reflected by widespread corruption and arbitrariness in decision making—led to a comparably low level of legitimacy of Russian bureaucratic institutions. This likely had a negative impact on citizen perceptions and the self-selection of qualified applicants into administrative jobs, potentially resulting in long-term decreases in bureaucratic efficiency.<sup>17</sup> Therefore, based on the operationalization above, I generate three testable hypotheses with respect to the present-day public administration.

**Hypotheses 1-3:** Compared to communes in the formerly Russian parts, we expect the local public administrations in the formerly Austrian or Prussian parts of Poland to have fewer public employees per 1,000 inhabitants (**H1**), to have a larger pool of applicants for administrative jobs (**H2**), and to use more channels of advertisement (**H3**).

When compared to Prussia, the higher levels of local autonomy and decentralization in the Austrian administration led to a higher perceived legitimacy of Austrian institutions. Consequently, interactions between bureaucrats and citizens were less antagonistic, which may have beneficial long-term consequences for the public's view of bureaucracies and the self-selection of qualified applicants into administrative jobs,

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<sup>17</sup>I elaborate in significantly more detail on the mechanisms of inter-temporal transmission below (section 3.4).

perpetuating bureaucratic efficiency.<sup>18</sup> Moreover, it has been theorized that more decentralized forms of external rule lead to superior long-term outcomes, in part because they make cooperation, co-production, and self-administration easier (Iyer, 2010; Lee and Schultz, 2012). Accordingly, based on the operationalization above, I generate three further hypotheses with respect to the present-day public administration:

**Hypotheses 4-6:** Compared to communes in the formerly Prussian parts, we expect the local public administrations in the formerly Austrian parts of Poland to have fewer public employees per 1,000 inhabitants (**H4**), to have a larger pool of applicants for administrative jobs (**H5**), and to use more channels of advertisement (**H6**).

### 3.4 Mechanisms of Inter-Temporal Transmission

Which specific mechanisms of inter-temporal transmission could be responsible for persistent imperial legacies in Poland's public administration?

When considering the historical period of Interwar Poland (1918-39), it is important to note that the nascent Polish state was slow to develop a new and unified legal framework to govern its public administration. Despite a process of (formal) unification in administrative procedures, for several years, the former partitions of Poland maintained distinct legal-administrative traditions—based primarily on the former colonizers' systems (Tarnowska, 2012; Tarnowska, 2013). This means that the quasi-experimental 'treatment' of distinct historical administrative systems persisted well into the 1920s.

Because human capital and administrative culture matter for bureaucratic orga-

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<sup>18</sup>I elaborate in significantly more detail on the mechanisms of inter-temporal transmission below (section 3.4).

nization as well, a relevant fact is that there was significant continuity in personnel after the disintegration of the empires. Historical statistics from the year 1923 reveal that, in each of the partitions, approximately one third or more of all civil servants had been working at the public administration since the period of external rule. Specifically, the Central Statistical Office of Poland (Główny Urząd Statystyczny Rzeczypospolitej Polskiej, 1925, 1) provided the following numbers on civil servants who had been working at the public administration for 6 or more years in 1923: 32.7% of civil servants in “Central Poland” (formerly under control of Russia), 32.1% in “Western Poland” (formerly under the control of Prussia), and 70.3% in “Southern Poland” (formerly under the control of Austria). Accordingly, both formal and informal aspects of bureaucratic organization persisted well into the 1920s, extending the distinct administrative systems into the Second Polish Republic and contributing to the perspective that administrative culture was a key aspect of inter-temporal stability in bureaucratic organization.

Since Poland did not have a unified legal framework in 1923, a comparison of the relative number of employees per capita is less meaningful than in the subsequent communist and post-communist periods. However, if we simultaneously compare differences in outputs, i.e. public goods and services, such an analysis can reveal important patterns. Most importantly, even though the Russian administrative state had been significantly less extensive in the provision of public goods and services (Grosfeld and Zhuravskaya, 2015, 60), historical statistics about the number of voivodeship (province) and county administrators show that the former Russian partition approximated the former Austrian and Prussian partitions in personnel size. While Austria and Prussia had provided *vastly* more outputs,<sup>19</sup> in the years

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<sup>19</sup>For example, Kumaniecki and Krzyżanowski (1915, 228-230, 253-258) show that both infrastructure (in terms of the paved roads per capita) and medical services (in terms of the number of doctors per capita) were much less extensive in the Russian partition (amongst many other public

after the disintegration of the empires, there was only a small difference between the formerly Russian parts of “Central Poland”—with an average of 0.16 administrators (per 1,000 inhabitants)—and the formerly Austrian and Prussian partitions—with 0.25 and 0.29, respectively (Gawryszewski, 2005, 82; Główny Urząd Statystyczny Rzeczypospolitej Polskiej, 1925, 26).

In light of the operationalization of efficiency that was set out above, which is based on the relationship of the provided goods and services (outputs) to the (human) resources used (inputs), the administration in the formerly Russian parts was clearly inferior. Historically, it had not only performed substantially below its Western counterparts, but often had a *negative* impact on its surroundings due to severe corruption (Davies, 2005, 78). If we compare these vastly inferior and even negative ‘outputs’ (including extraction of wealth) to the number of administrators that approximated the Western partitions, it is clear that the efficiency of the public administrations in the formerly Russian parts was subpar.

Similar patterns can be observed with respect to civil servants broadly defined (including judicial personnel and tax administrators amongst others, but excluding teachers and professors): The number of civil servants in the former Russian partition (1.36 per 1,000 inhabitants) approximated the former Austrian and Prussian partitions (which had an average of 1.85 and 1.84, respectively) (Główny Urząd Statystyczny Rzeczypospolitej Polskiej, 1925, 1, 63).<sup>20</sup> Overall, these numbers indicate that the administrative state in the former Russian partition, despite being far less productive in terms of public goods (and far more extractive and corrupt), approximated

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goods and services).

<sup>20</sup>The unexpectedly small difference in the Prussian and Austrian partitions can be explained by the fact that the Austrian partition retained a substantially larger number of administrators from the period of imperial rule (Główny Urząd Statystyczny Rzeczypospolitej Polskiej, 1925, 1), while many civil service offices which had previously been occupied by German citizens now had to be filled with Poles.



the bureaucracies in the former Austrian and Prussian partitions regarding personnel size.

Even though World War Two and the transition to communism were highly disruptive to the Polish political system, the latter also meant a homogenization of legal-administrative frameworks across Poland. If path dependence in bureaucratic organization holds, the suggested patterns in personnel size—as a measure for efficiency—should be fully observable in this period due to a streamlining of expected outputs.

Specific numbers regarding the employees of local public administrations are available for the year 1968 (Główny Urząd Statystyczny, 1970, 114-115).<sup>21</sup> When combined with population statistics (Główny Urząd Statystyczny, 1972, 18-44), we observe the following patterns: The voivodeship Krakowskie, which overlaps with the former Austrian partition, had a relatively low number of 1.58 local public administrators per 1,000 inhabitants. Similarly, the voivodeship Katowickie, which was split between all three empires, with a substantial Austrian part, had 1.51 local administrators. Only the mostly Austrian voivodeship Rzeszowskie is an outlier with 2.04 administrators, leading to an average of 1.71 in these three territories. The voivodeships that overlap with the Prussian partition to the greatest extent (Koszalińskie, Szczecińskie, Zielonogórskie, Olsztyńskie, Opolskie, Gdańskie, Wrocławskie, Bydgoskie, and Poznańskie) had an average value of 1.77. Finally, the voivodeships that primarily overlapped with the Russian partition (Białostockie, Łódźkie, Lubelskie, Kieleckie, Warszawskie) had an average of 1.93 administrators. These significant relative differences, which can be observed despite a unification in *formal* institutions, are mostly in line with my expectations.<sup>22</sup> They also provide support for the view

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<sup>21</sup>Unfortunately, to the best of my knowledge, comparable numbers are not available for other years.

<sup>22</sup>Fortunately, these numbers do not include the employees of state-run enterprises, which would

that persisting differences in *informal* institutions are constitutive for divergence in bureaucratic efficiency. Considering the previous operationalization, the unification of the legal frameworks and the associated streamlining of expected outputs mean that we can more directly compare the number of local administrators as a possible measure of efficiency. Accordingly, in an input/output framework of efficiency, the administrations in the formerly Russian partition perform substantially below their counterparts in the communist period as well.

Which concrete mechanisms related to informal institutions could be responsible for the inter-temporal stability of administrative organization in Poland? Theoretically, at least two possible channels of transmission exist.

First, the inter-generational transmission of cultural values (that were historically imposed by the public administrations of the three powers) could have a persistent impact on administrative norms and behavior (cf. Alesina and Giuliano, 2015; Grosfeld and Zhuravskaya, 2015). A key mechanism of such transmission is socialization through the family (Bisin and Verdier, 2001), the work place (Levine and Moreland, 1991), or the broader social environment. Second, historically formed attitudes towards the state may influence the relationship of individuals with public authorities (cf. Bräutigam, Fjeldstad and Moore, 2008; Levi, 1989). Bustikova and Corduneanu-Huci (2017) argue that such historically formed views of the state can constitute a long-term equilibrium and have a decisive impact on state-citizen interactions, specifically in terms of clientelism. Similar to cultural values, social attitudes can be transmitted within the family (Dohmen, Falk, Huffman and Sunde, 2011), the work place (Van Maanen, 1975), or social groups (Guimond, 2000). Additionally, a robust positive perception of public bureaucracies could persistently lead to the self-selection of more highly qualified applicants, creating a self-reinforcing dynamic

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make them less comparable across regions and over time.

of higher efficiency and better public attitudes.<sup>23</sup>

Comprehensive empirical evidence demonstrates that cultural legacies of imperial rule persisted throughout the communist time period. Hryniewicz (1996) shows that, after the disintegration of the communist regime, people in western and southern territories of Poland (which primarily belonged to Prussia and Austria) had substantially stronger beliefs in meritocracy and the market as an allocation mechanism. People in territories that primarily belonged to the Russian partition were more likely to view work as a source of financial security rather than self-achievement (Hryniewicz, 1996; Zukowski, 2004). Additionally, Grosfeld and Zhuravskaya (2015) find that democratic capital and beliefs in decentralized governance are greatest in the formerly Habsburg parts.

These substantial regional differences in norms and values support the position that persistence in culture likely is a driving force in the path dependence of administrative organization, connecting the time of imperial rule to subsequent periods. Stronger beliefs in the market and meritocracy in Poland's west and south make a selection based on patronage and personal connections less likely. Moreover, since corruption had been a key aspect of regional administrative culture in the Russian partition, it is possible to have amplified corrupt behavior by public officials both in the Second Polish Republic and under communism.<sup>24</sup>

Furthermore, Majcherkiewicz (2008, 140) argues that “[present-day] attitudes [towards the public administration] ... were formed during the long Partition period

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<sup>23</sup>In addition to these two mechanisms, persistence in social structures—shaped by imperial states—could also affect labor market outcomes, including recruitment into private and public organizations (Granovetter, 2005; Montgomery, 1991; Putnam, Leonardi and Nanetti, 1994). Thus, social structures are likely to have an impact on the organization of and recruitment in local public administrations. This specific mechanism is discussed in more detail in the appendix (subsection 6.2.5).

<sup>24</sup>For instances of such corrupt behavior in both time periods, see Biskupski (2000, 77) and Prazmowska (2011, 210).

that began in 1795 and ended in 1918.” Since there were significant differences in efficiency, corruption, and legitimacy between the bureaucracies of the three occupying powers, those views likely differ across the partitions. In this respect, Becker et al. (2016) present empirical evidence that there is path dependence in perceptions of state institutions across the historical Habsburg border, including in Poland. Persisting positive views of the public administration could lead to the self-selection of more and more highly qualified candidates into the applicant pool, also reinforcing higher levels of efficiency.

With respect to these mechanisms, I have also conducted interviews with 16 experts in 6 different cities in Poland. These interviews provide additional support for the mechanisms described above and are discussed in the appendix (subsection 6.2.5 and subsection 6.2.7). It is important to emphasize, however, that my study merely outlines and illustrates, but does not deliver exhaustive empirical evidence for, the suggested mechanisms of inter-temporal transmission. Future studies of these mechanisms will require a comprehensive interdisciplinary account, combining insights and data from cultural anthropology and (organizational) sociology, to explain the observed patterns.

## **3.5 Searching for the Legacies of Imperial Bureaucracies: the Empirical Test**

### **3.5.1 Data Collection**

I conduct an empirical analysis at the level of the commune (*gmina*). The term ‘commune’ is comparable to the term municipality, which is more common in countries in which English is the official language. For this purpose, I have used a database of

Polish government institutions to identify as many public administrations at the communal level as possible (Biuletyn Informacji Publicznej, 2016). I have covered more than 90 percent of all communes through the successful extraction of approximately 2,300 email addresses.<sup>25</sup>

The central data collection effort was an electronic survey on various aspects of bureaucratic efficiency and performance. The Warsaw city administration provided helpful assistance in developing the survey, which was then delivered by email to each gmina. Respondents were allowed to give approximations when they did not have precise quantities on certain questions. The scope of most questions was limited temporarily to the years 2014 and 2015.

Questions were on the size of the public administration (in terms of administrators), the number of job openings at the level of the clerk (*urzednik*) in 2014-2015, the number of applicants for these positions, the number of distinct channels of advertisement for these positions, and other measures of efficiency (such as the processing time for vehicle certificate requests). Unfortunately, the processing time of vehicle certificate requests cannot be used in the geographic RD analysis because only powiat-level communes have this task, meaning that only a small number of respondents have provided data on this variable.<sup>26</sup>

The data collection process began in late January 2017. The survey was sent to approximately 2,300 public administrations and received approximately 740 responses by late April. Some questionnaires were submitted but not filled out in their entirety, meaning that, depending on which answers were provided, only 500-680 responses can be used for the analyses here.

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<sup>25</sup>As I used many different ways to identify public administrations, the most likely reason for my inability to extract 100 percent is the possible absence of communes from the database.

<sup>26</sup>Additional information on the collection of email addresses, the introductory email, and the questions that were used to construct the dependent variables here can be found in the appendix (section 6.2).

I have removed the capital Warsaw from the sample because its city administration assisted me in developing the survey and, as Poland's capital, Warsaw has many special characteristics making it unique and as such a potential outlier, meaning that it is not comparable to any other Polish city.<sup>27</sup>

In addition to the data that I have collected through the survey, I have obtained additional data to control for confounding factors. In the statistical analyses I often use the natural logarithm of the original values to ensure a distribution that is closer to the Normal distribution. A detailed description of the covariates for which I obtained data follows. It is important to note that in all regressions that include covariates, there is the possibility of post-treatment bias, which is why I strongly prefer models that use either no or a minimal number of covariates.<sup>28</sup> Despite the possibility of post-treatment bias, I include results with covariates for full transparency.

**Communal Tax Revenues Per Capita (2013):** I use data on tax revenues provided by the Central Statistical Office of Poland (2017) because the size of tax revenues (per capita) can be a proxy for development levels, and wealthier communes may be able to employ more administrators. I use the year 2013 because—in most cases—the dependent variables are limited to 2014-15.

**Population Density (2013):** I use data on population density by the Central Statistical Office of Poland (2013) because lower levels of population density are associated with more rural/agricultural communes, which potentially has an impact on the use and provision of government services.

**Average Migration (1995-2013):** I use data on migration levels (per 1,000 in-

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<sup>27</sup>For example, as Poland's capital, Warsaw has its own administrative organization, and, with 1.7 million inhabitants, it is the country's only city which has more than 1 million citizens.

<sup>28</sup>In the appendix (subsection 6.2.11), I conduct empirical analyses that underscore the possibility of post-treatment bias.

habitants) by the Central Statistical Office of Poland (2017) because greater/smaller inflows indicate that a commune is more/less attractive, which could have an impact on recruitment levels.<sup>29</sup>

**Average Unemployment Rate (2014-2015):** I use data on unemployment rates by the Central Statistical Office of Poland (2017) because high unemployment rates could mean that there is greater interest in public employment (leading to more applicants) and potentially greater pressure on public officials to provide more jobs in the local public administration (leading to larger bureaucracies).

**Academic Applicants (2014-2015):** I use data from my survey to compute the share of applicants with a university degree. This may serve as a proxy for the size and quality of local educational institutions.

**Powiat-Level City:** I control for powiat (county) status because those cities have additional administrative tasks for which they might need more employees.

**Economies of Scale Controls—Commune Type and Population Size:** Because larger communes could enjoy economies of scale, I control for it in two different ways. In regressions where the population size is a component of the dependent variable (DV: Employees/Population), I use categorical variables distinguishing *rural communes* and *urban-rural communes* from *urban communes*. In regressions where the population size is not a component of the dependent variable (DVs: Applicants/Job and Advertisement Channels), I use the *population size* as a more direct and nuanced measurement.

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<sup>29</sup>Moreover, Finseraas, Røed and Schøne (2017) demonstrate that immigration patterns can have political consequences due to changes in labor market competition. Possible adjustments in public transfer policies resulting from migration may also affect the size of public administrations.

**Dummy Variables for Austria, Russia, and Interwar Germany:** I use dummy variables for Austria and Russia to assess differences between communes from those empires and Prussian communes. Additionally, due to the massive population resettlements after 1945 from the formerly Russian parts and Eastern Galicia to communes that were part of Interwar Germany (1918-1939), I also need to control for historically being on its territory.<sup>30</sup> Considering that the theory rests on socio-cultural factors, we would expect to see significant differences between the Prussian communes that were part of Interwar Germany and those that were not. In the following sections, I often use the shorthand labels *Russian*, *Austrian*, or *Prussian* communes to denote communes that were on the territory of the respective empire.

Table 3.1 shows descriptive summary statistics of variables that are used in various parts of the empirical analyses.<sup>31</sup>

### 3.5.2 Response Rates and Locations

The response rates were 26.7% for Russian communes, 29.1% for Prussian communes, and 26.0% for Austrian communes. These differences in response rates are not statistically significant at the  $\alpha = 0.1$  level. This means that I do not have reason to believe that there was systematically different selection into survey participation across the partitions.

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<sup>30</sup>This issue is discussed in more detail in the historical background section (subsection 3.3.6).

<sup>31</sup>In terms of the number of employees per 1,000 people, one might ask if the observed variation—e.g., the interquartile range of 1.68 employees—is substantively meaningful. In this respect, some additional information might be required. According to Główny Urząd Statystyczny (2017, 286) (The Polish Yearbook of Labor Statistics, 2017), the average salary of a local public administration employee was PLN 4485.06 per month in 2016. If we consider a town of 20,000 people, then a difference of 1.68 employees per 1,000 inhabitants results in a difference for the overall communal budget of approximately PLN 1.8 million ( $4485.06 * 1.68 \text{ employees} * 12 \text{ months} * 20$ ), or approximately USD 475,000 (at current exchange rates). For a town of 20,000 people in a country that currently has a GDP of approximately 1/4 of the US, this is a substantial financial burden, indicating that the difference is substantively meaningful.



**Table 3.1:** Descriptive Statistics: Empirical Analysis of Chapter Three

Variable	n	Min	q <sub>1</sub>	$\bar{x}$	$\tilde{x}$	q <sub>3</sub>	Max	IQR
Empl./Pop. (per 1,000)	661	1.83	3.25	4.26	3.94	4.94	14.00	1.68
Empl./Pop. (Log.)	661	0.61	1.18	1.40	1.37	1.60	2.64	0.42
App./Job	566	0.00	2.67	5.93	4.18	7.47	45.00	4.80
App./Job (Log.)	564	-0.69	0.98	1.48	1.45	2.01	3.81	1.03
Advert. Channels	574	0.00	2.00	2.32	2.00	3.00	6.00	1.00
Revenue PC	673	2.19	2.81	3.31	3.08	3.52	45.83	0.71
Revenue PC (Log.)	673	7.69	7.94	8.07	8.03	8.17	10.73	0.23
Pop. per km <sup>2</sup>	673	6.00	44.00	271.38	66.00	153.00	3344.00	109.00
Pop. per km <sup>2</sup> (Log.)	673	1.79	3.78	4.60	4.19	5.03	8.11	1.25
Pop.	668	1.73	5.25	17.05	7.94	15.35	742.88	10.10
Pop. (Log.)	668	7.45	8.57	9.19	8.98	9.64	13.52	1.07
Time Veh. Cert. Process.	26	7.00	10.25	16.46	14.00	20.75	30.00	10.50
Time Veh. Cert. (Log.)	26	1.95	2.33	2.71	2.64	3.03	3.40	0.71
No. Veh. Cert.	27	2.38	16.73	35.29	22.97	34.02	193.74	17.29
No. Veh. Cert. (Log.)	27	7.77	9.73	10.09	10.04	10.43	12.17	0.71
Powiat Status	682	0.00	0.00	0.04	0.00	0.00	1.00	0.00
Rural Commune	682	0.00	0.00	0.58	1.00	1.00	1.00	1.00
Urban-Rural Commune	682	0.00	0.00	0.26	0.00	1.00	1.00	1.00
Academ App.	552	0.00	0.90	0.92	1.00	1.00	1.00	0.10
Avg. Migr. (per 1,000)	673	-10.83	-3.29	-0.36	-1.41	1.07	34.40	4.36
Avg. Unemployment	682	3.00	9.95	13.54	12.97	16.90	32.60	6.95
Reply Time (in Days)	682	1.00	4.00	15.32	10.00	29.25	89.00	25.25
Reply Time (Log.)	682	0.00	1.39	2.28	2.30	3.37	4.49	1.99
Austria	682	0.00	0.00	0.14	0.00	0.00	1.00	0.00
Russia	682	0.00	0.00	0.43	0.00	1.00	1.00	1.00
Prussia	682	0.00	0.00	0.43	0.00	1.00	1.00	1.00
Interwar Germany	682	0.00	0.00	0.24	0.00	0.00	1.00	0.00

Figure 3.2 shows the communes that responded to the survey on a historical map with the imperial borders of 1815-1914. We see a geographically balanced sample of responses. Communes that were in Interwar Germany are represented by yellow boxes. Geographic data was obtained from GeoNames (2012), Nüssli and Nüssli (2008), MPIDR and CGG (2013), Eurostat (2017a), and MPIDR and CGG (2012).

### 3.5.3 Empirical Techniques and Properties of the Regressions

To estimate the magnitude of diverging outcomes between the parts of Poland that were historically ruled by different empires, I use multiple empirical techniques

**Figure 3.2:** Location of Communes and the Imperial Borders of 1900 (This map is partly based on the following source: © EuroGeographics for the administrative boundaries.)



and regression formats, beginning with a simple dummy variable framework. In addition, I use a regression discontinuity design with distance to the border as the forcing variable. To deal with potential weaknesses of an RD analysis, such as long-term spillover effects at the historical borders, I include a third alternative: matching based on covariates. While none of these techniques is flawless, if we can discover some results that are consistent across different sets of analyses, our confidence in their validity may be strengthened.

**Simple Dummy Variables:** I begin by using a simple dummy variable framework with the following properties:

$$y_i = \beta_0 + \beta_1 \text{empire}_{ji} + \mathbf{x}'_i \boldsymbol{\beta} + \varepsilon \quad (3.1)$$

$y_i$  is the dependent variable measured at the level of the commune ( $i$ ).  $\beta_0$  represents the intercept.<sup>32</sup>  $\beta_1$  represents the difference between communes that belonged to empire  $j$  and those that did not.  $\mathbf{x}'$  represents a vector of covariates and  $\boldsymbol{\beta}$  a vector of the respective coefficients.<sup>33</sup> In all cases in which Prussia is involved, I add a covariate for Interwar Germany as discussed above.

**Geographic Regression Discontinuity Analysis:** I also conduct an analysis based on a geographic RDD, using distance to the historical border as the forcing variable (Keele and Titiunik, 2015):

$$y_i = \beta_0 + \beta_1 \text{empire}_{ji} + \mathbf{x}'_i \boldsymbol{\beta} + f(\text{geographic location}) + \varepsilon \quad (3.2)$$

$y_i$  is the dependent variable. The unit of analysis  $i$  remains the commune.  $\beta_0$  represents the intercept.<sup>34</sup>  $\beta_1$  represents the difference between communes from the compared empires.  $\mathbf{x}'$  represents a vector of covariates and  $\boldsymbol{\beta}$  represents a vector of the respective coefficients. In all cases in which Prussia is involved, I add a covariate for Interwar Germany as in the simple dummy variable framework.  $f(\text{geographic location})$  is one of two functions of the geographic location of the commune that are described below.

**Distance to Border:** The first function of geographic location represents the air

<sup>32</sup>When no further covariates are included, this variable represents the average of the baseline category, which are Prussian communes in most comparisons. However, when covariates are included, the intercept may shift.

<sup>33</sup>In the main empirical section of the chapter (section 3.6), with respect to the simple dummy variable framework, I only make direct comparisons between two empires at the same time. In those comparisons, I limit the covariates to ‘Interwar Germany’ and ‘Powiat-level City.’ I use the other covariates for the genetic matching procedure as shown in subsection 3.6.11. Moreover, in the chapter’s appendix (subsection 6.2.10), I include an analysis that considers all partitions simultaneously and also includes all covariates.

<sup>34</sup>When no further covariates are included, this variable represents the average of the baseline category, which are Prussian communes in most comparisons. However, when covariates are included, the intercept may shift.

distance to the historical border:

$$f(\text{geographic location}) = \gamma_1 \text{ distance to border}_i + \gamma_2 \text{ distance to border}_i * \text{empire}_{ji} \quad (3.3)$$

In this format, distance is measured as the shortest absolute distance in kilometers to the historical imperial border. In each comparison, distance values are negative for one empire and positive for the other one. Coefficients are represented by  $\gamma$ .

**Latitude/Longitude and Polynomials:** Additionally, following Dell (2010), I also use a function where the location is a measure of latitude, longitude, as well as interactions and polynomials of those variables:

$$f(\text{geographic location}) = \gamma_1 x + \gamma_2 y + \gamma_3 x^2 + \gamma_4 y^2 + \gamma_5 xy + \gamma_6 x^2 y + \gamma_7 xy^2 + \gamma_8 x^3 + \gamma_9 y^3 + \gamma_{10} \text{ distance to border}_i + \gamma_{11} \text{ distance to border}_i * \text{empire}_{ji} \quad (3.4)$$

In this framework,  $x$  represents a commune's latitude and  $y$  represents a commune's longitude. Coefficients are again represented by  $\gamma$ .

**Matching:** While we have strong support for the quasi-randomness of the imperial borders that separated Poland in the 19th and early 20th centuries, a geographic RD analysis relies on the very strong assumption that there were no spillovers in the close vicinity of the historical borders after the disintegration of the empires.<sup>35</sup> If there were any spillovers, they could lead to convergence in administrative organization close to the imperial borders, which would violate the stable unit treatment value

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<sup>35</sup>Such effects could have occurred in the areas of culture, social structures, or perceptions of the public administration, which are all mechanisms of path dependence as articulated in section 3.4 and the appendix (subsection 6.2.5).

assumption (SUTVA) and thus negatively affect an RD analysis.<sup>36</sup>

For these reasons, I also implement an alternative technique to a regression discontinuity approach, namely (genetic) matching. In general, matching identifies units in two groups that share a similar distribution of covariates, but differ in their treatment, i.e. in terms of the imperial power that ruled the respective territory. By ensuring that only units with similar characteristics are compared to each other, we can address an underlying imbalance in covariates (that could negatively affect results in the simple dummy variable framework). The potential of such an imbalance, caused by multiple treatment effects of imperial rule, is indicated by the results obtained in the appendix (subsection 6.2.11). In contrast to a regression discontinuity approach, matching does not as strongly rely on observations in the immediate vicinity of the historical borders, making it less sensitive to spillover effects in this narrow geographic area. In the analysis below, I rely on genetic matching, which assigns differential weights to covariates through an evolutionary search algorithm (Diamond and Sekhon, 2013). The key advantage of this matching method is that it focuses on optimizing covariate balance instead of simply computing propensity scores (which in many cases does not automatically lead to balance on the covariates).

**Count Variables:** Finally, since one of my outcome variables—‘channels of advertisement’—is a count variable, in addition to simple linear regressions, I also use quasi-Poisson regressions (in all three types of analyses outlined above). Quasi-Poisson models are based on standard Poisson regression, which is an appropriate model for count variables. Accordingly, the standard Poisson model is the point of departure for the application of a quasi-Poisson. The former (standard Poisson regression) has the following format:

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<sup>36</sup>We indeed observe some patterns, which may indicate spillovers in the empirical section (section 3.6) and in the appendix (subsection 6.2.13 and subsection 6.2.14).

$$Pr(Y = y_i | \mu_i) = \frac{e^{-\mu_i} \mu_i^{y_i}}{y_i!}, \quad y_i = 0, 1, 2, \dots \quad (3.5)$$

For each observation  $i$ ,  $\mu_i$  is determined by:

$$\log(\mu_i) = \beta_0 + \beta_1 \text{empire}_{ji} + \mathbf{x}_i' \boldsymbol{\beta} + f(\text{geographic location}) \quad (3.6)$$

$$\mu_i = e^{\beta_0 + \beta_1 \text{empire}_{ji} + \mathbf{x}_i' \boldsymbol{\beta} + f(\text{geographic location})} \quad (3.7)$$

All systematic components of the exponent are equivalent to the linear regression models above. In cases, in which I do not include covariates or geographic factors,  $\mathbf{x}_i' \boldsymbol{\beta}$  or  $f(\text{geographic location})$  are omitted, respectively.

When applying a quasi-Poisson regression, the same parameter values for the coefficient estimates ( $\beta$  and  $\gamma$ ) as in the standard Poisson model above are obtained.<sup>37</sup> However, the standard errors of the coefficients are subsequently adjusted to reflect possible over- or underdispersion of the data. Specifically, while the standard Poisson assumes  $\sigma^2 = \mu$ , in the quasi-Poisson  $\sigma^2 = \psi\mu$ , where  $\psi$  is a parameter that can vary with the actual underlying dispersion of the data.

## 3.6 Empirical Test: Results

### 3.6.1 Initial Comparisons: Simple Dummy Variables (at Optimal Bandwidths)

I begin this section with a set of analyses based on Equation 3.1 and quasi-Poisson models. All of these analyses are direct comparisons of legacies, including Prussia/Russia, Austria/Russia, and finally Prussia/Austria. In each case, the sample was

<sup>37</sup>We obtain the same parameter values for the coefficients because we still operate with the same condition of setting the derivative of the Poisson log-likelihood function to zero.

restricted to the optimal bandwidth as obtained in the subsequent sections through Imbens and Kalyanaraman (2012). In addition to a control variable for Interwar Germany, the only covariate that I include is for cities that have the status of a county (powiat), since they have a different set of organizational tasks (or expected outputs) and need to be compared within their own category.

The results reveal some interesting patterns. First, in direct comparison with communes on the formerly Prussian territories, communes on the formerly Russian territories underperform in several dimensions. They have approximately 10 percent more employees per capita and 26 percent fewer applicants per job. Both of these results are statistically significant at  $\alpha < 0.01$ . Additionally, there is a negative effect on the number of advertisement channels, but this effect is not significant at  $\alpha < 0.05$ —it is only significant at  $\alpha < 0.1$ .

Similar results with respect to the number of employees are obtained in the comparison between Austria and Russia. The Russian communes have approximately 26 percent more employees per 1,000 inhabitants. This result is significant at  $\alpha < 0.01$ . However, results in terms of applicants per job are not significant. While we again observe a negative effect on advertisement, this effect is significant only at  $\alpha < 0.1$ .

Finally, in the third set of comparisons (Prussia/Austria), we see significant results in the number of employees per capita. Communes on the formerly Austrian territory have approximately 14 percent fewer employees (significant at  $\alpha < 0.05$ ), which means that, in terms of efficiency, they outperform communes from the other two partitions. Regarding applicants per job we see an unexpected positive effect (at  $\alpha < 0.1$ ) but also do not reach the conventional threshold of  $\alpha < 0.05$ . This effect disappears in more comprehensive regressions below. Finally, in terms of advertisement channels, I do not obtain results that are significant at any conventional level.

**Table 3.2:** Direct Comparisons (Simple Dummy Variables) (at Optimal Bandwidths)

	<i>Dependent variable:</i>								
	Empl./Pop.	App./Job	Advert.	Empl./Pop.	App./Job	Advert.	Empl./Pop.	App./Job	Advert.
	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>
	Prussia/Russia (Reg. 1-3)			Austria/Russia (Reg. 4-6)			Prussia/Austria (Reg. 7-9)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Russia	0.093*** (0.036)	-0.300*** (0.086)	-0.080* (0.043)	0.235*** (0.052)	-0.021 (0.112)	-0.101* (0.060)			
Austria							-0.147** (0.066)	-0.278* (0.149)	-0.044 (0.075)
Interwar Germany	0.054 (0.043)	-0.189* (0.098)	-0.011 (0.046)				0.047 (0.069)	-0.266* (0.152)	-0.016 (0.077)
City Powiat	-0.099 (0.071)	0.901*** (0.161)	0.173** (0.075)	0.075 (0.120)	1.297*** (0.253)	0.377*** (0.111)	0.104 (0.090)	1.032*** (0.201)	0.220** (0.087)
Constant	1.352*** (0.028)	1.623*** (0.068)	0.885*** (0.034)	1.196*** (0.038)	1.388*** (0.091)	0.790*** (0.044)	1.372*** (0.057)	1.684*** (0.119)	0.859*** (0.064)
Observations	404	390	447	142	210	166	161	192	177
R <sup>2</sup>	0.023	0.110		0.129	0.115		0.090	0.153	
Adjusted R <sup>2</sup>	0.016	0.103		0.116	0.106		0.073	0.140	

Note: OLS, Q.-Poiss.  
Opt. BWs

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



These initial results provide some first and limited evidence that there are imperial legacies in the organization of public administrations. In particular, there seem to be differences in terms of the number of employees per capita and the number of applicants per job. The results with respect to advertisement channels are less significant. In the following sections, I will build upon these initial results and include a number of additional covariates to account for the potential impact of further factors. Moreover, at the end of the empirical section—to address potential imbalance in covariates (caused by multiple treatment effects) as well as possible spillover at the borders—I provide empirical results based on matching.<sup>38</sup>

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<sup>38</sup>Furthermore, in the appendix, I provide the results of this analysis based on the conservative approach of Holm-corrected p-values (subsection 6.2.9).

### 3.6.2 Prussia/Russia Comparison: Full Sample

Next, I use the regression with the properties shown in Equation 3.2, with both functions of geographic location introduced earlier (Equation 3.3, Equation 3.4), to measure differences between communes in the formerly Prussian and Russian parts. In terms of public employees, I obtain only mixed results, but all are in the theoretically expected direction (Table 3.3). The results for applicants/job are stronger than the results for employees/population, generally showing high levels of statistical significance. The substantive effect ranges from approximately 16 percent fewer applicants to approximately 31 percent fewer applicants per job opening in the formerly Russian parts.

In terms of applicants, I obtain statistically significant results for both Russian communes and communes in Interwar Germany in most empirical specifications. The only exception is the final specification, including both covariates and the complex measurement of geographic location. It is important to note that the inclusion of covariates also introduces the possibility of post-treatment bias, as indicated earlier. As this specification has the largest number of covariates, the non-significance of the results is most likely in part related to fewer degrees of freedom and a smaller sample size. In general, I obtain evidence for a lasting negative impact of Russian rule.

In the appendix (subsection 6.2.12), I show that most results hold when introducing distance weights. Additionally, I show that—with the full sample—there are no statistically significant results with respect to advertisement channels. However, the results regarding advertisement hold for smaller border samples as shown below.

**Table 3.3:** Prussia/Russia Comparison: Full Sample

	<i>Dependent variable:</i>							
	Empl./Pop. (Log.)				App./Job (Log.)			
	Simple Distance		Lat./Long.		Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Russia	0.132*** (0.045)	0.066 (0.043)	0.079 (0.053)	0.010 (0.051)	-0.375*** (0.116)	-0.245** (0.111)	-0.320** (0.140)	-0.171 (0.135)
Interwar Germany	0.067 (0.042)	0.065 (0.040)	0.039 (0.049)	0.030 (0.046)	-0.230** (0.108)	-0.169 (0.103)	-0.320** (0.126)	-0.209* (0.121)
Revenue (Log.)		0.493*** (0.062)		0.477*** (0.061)		0.280* (0.161)		0.256 (0.162)
Pop. Dens. (Log.)		-0.089** (0.022)		-0.124*** (0.022)		0.066 (0.042)		0.067 (0.045)
Powiat-Level City		-0.131* (0.072)		-0.124* (0.071)		-0.032 (0.204)		-0.023 (0.204)
Avg. Migr.		-0.001 (0.003)		-0.001 (0.003)		-0.009 (0.006)		-0.006 (0.006)
Unempl. Avg.		-0.002 (0.003)		0.0001 (0.003)		-0.002 (0.007)		-0.003 (0.007)
Academ. App.		-0.149** (0.071)		-0.145** (0.069)		-0.043 (0.183)		-0.088 (0.183)
Rural Commune		-0.155** (0.073)		-0.218*** (0.072)				
Urban-Rural Commune		-0.277*** (0.066)		-0.330*** (0.066)				
Population (Log.)						0.278*** (0.071)		0.286*** (0.073)
Dist.	-0.0005 (0.0003)	0.0001 (0.0003)	0.002 (0.002)	0.002 (0.002)	-0.0003 (0.001)	-0.0004 (0.001)	-0.001 (0.005)	-0.002 (0.004)
Dist. * Russia	0.0003 (0.0004)	-0.0003 (0.0004)	-0.002 (0.001)	-0.002 (0.001)	0.001 (0.001)	0.001 (0.001)	-0.0003 (0.004)	-0.0002 (0.004)
Constant	1.322*** (0.033)	-1.867*** (0.546)	288.362 (1,420.318)	1,663.944 (1,291.224)	1.681*** (0.082)	-3.474** (1.499)	-6,338.082* (3,630.802)	-6,205.916* (3,400.283)
Observations	569	464	569	464	487	465	487	465
R <sup>2</sup>	0.020	0.270	0.046	0.328	0.032	0.194	0.062	0.224
Adjusted R <sup>2</sup>	0.013	0.250	0.024	0.297	0.024	0.175	0.036	0.189

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 3.6.3 Prussia/Russia Comparison: Graphs

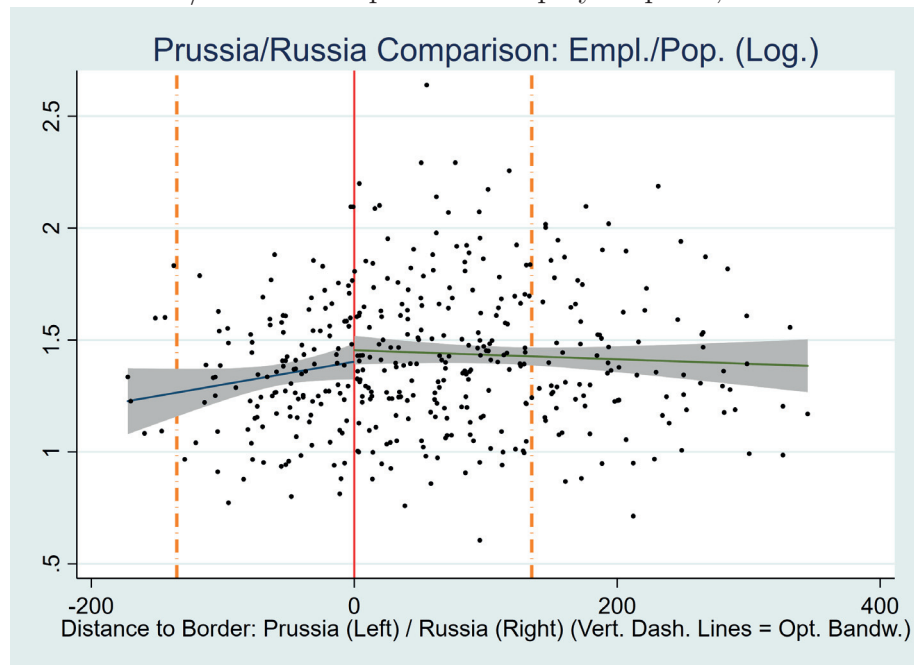
Figure 3.3, Figure 3.4, Figure 3.5, Figure 3.6, Figure 3.7, and Figure 3.8 show the geographic discontinuities based on linear models in terms of all three variables. Negative values denote distances of Prussian communes and positive values denote distances of Russian communes to the historical border. Communes that historically belonged to Interwar Germany were removed from these graphs as they have to be treated separately.

We observe the strongest legacy effect in terms of applicants per job (Figure 3.5 and Figure 3.6). It appears that communes on the formerly Prussian territories have significantly more applicants, indicating higher levels of competitiveness and meritocracy in the recruitment process. No significant effect is visible in terms of employees per population (Figure 3.3 and Figure 3.4).

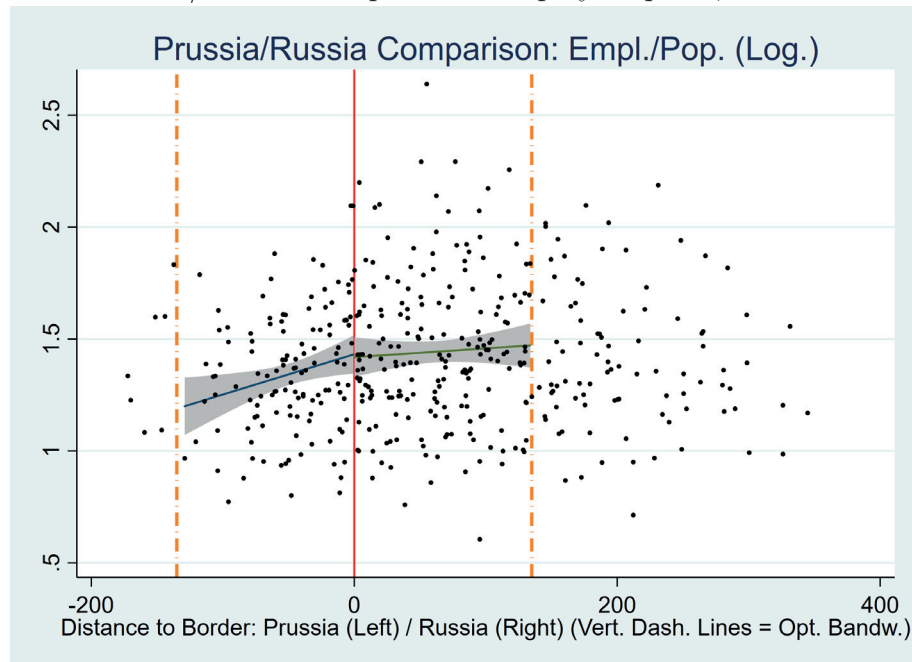
Finally, with respect to the count variable ‘channels of advertisement,’ in these and subsequent graphs I use a linear model only for illustrative purposes. The results based on quasi-Poisson regressions, as displayed below (Table 3.6), are more authoritative (because they are based on a more appropriate empirical model) and do show a significant influence of the key legacy variable.

In the appendix (subsection 6.2.12), I provide additional graphs using a quadratic regression format and obtain comparable results, although some are showing more overlap in the confidence intervals.

**Figure 3.3:** Prussia/Russia Comparison: Employees per 1,000 Inhabitants (Log.)



**Figure 3.4:** Prussia/Russia Comparison: Employees per 1,000 Inhabitants (Log.)



**Figure 3.5:** Prussia/Russia Comparison: Applicants per Job (Log.)

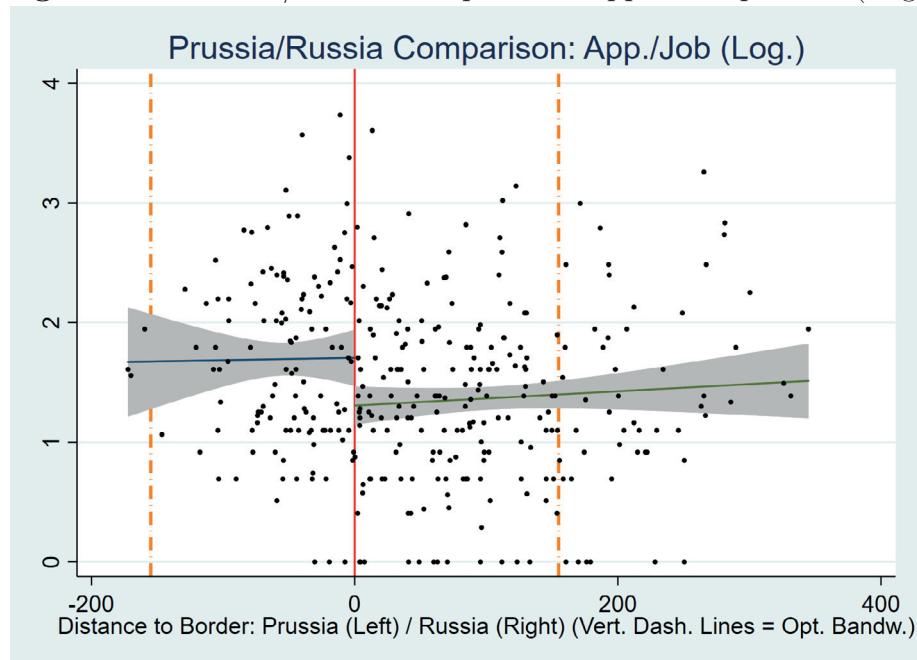


Figure 3.6: Prussia/Russia Comparison: Applicants per Job (Log.)

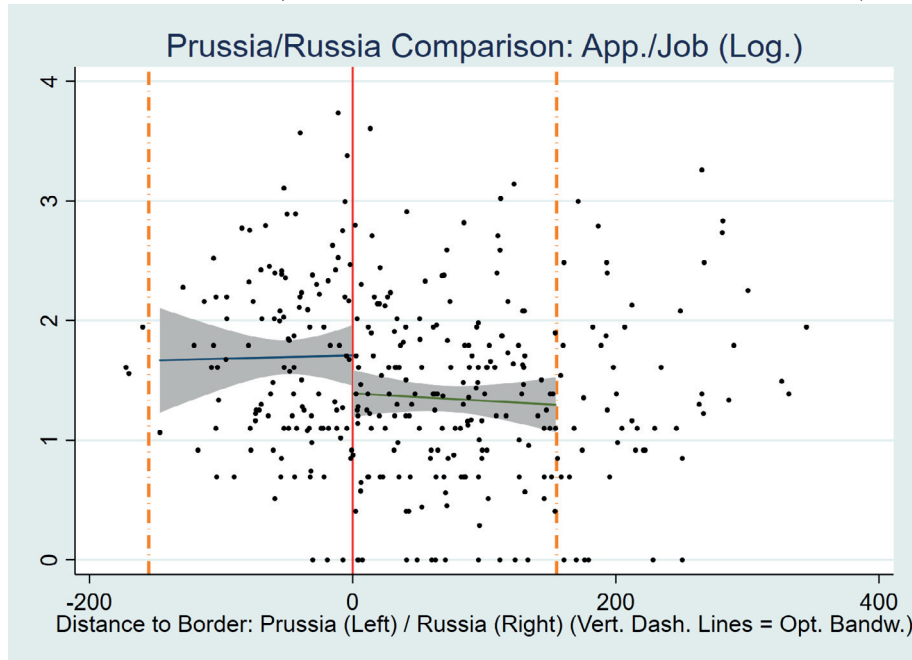


Figure 3.7: Prussia/Russia Comparison: Channels of Advertisement

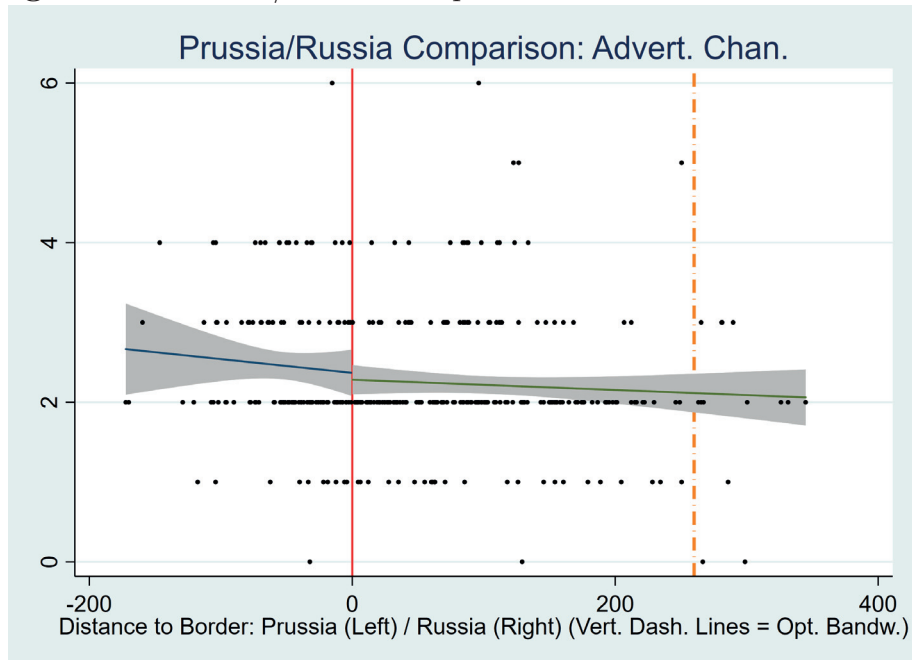
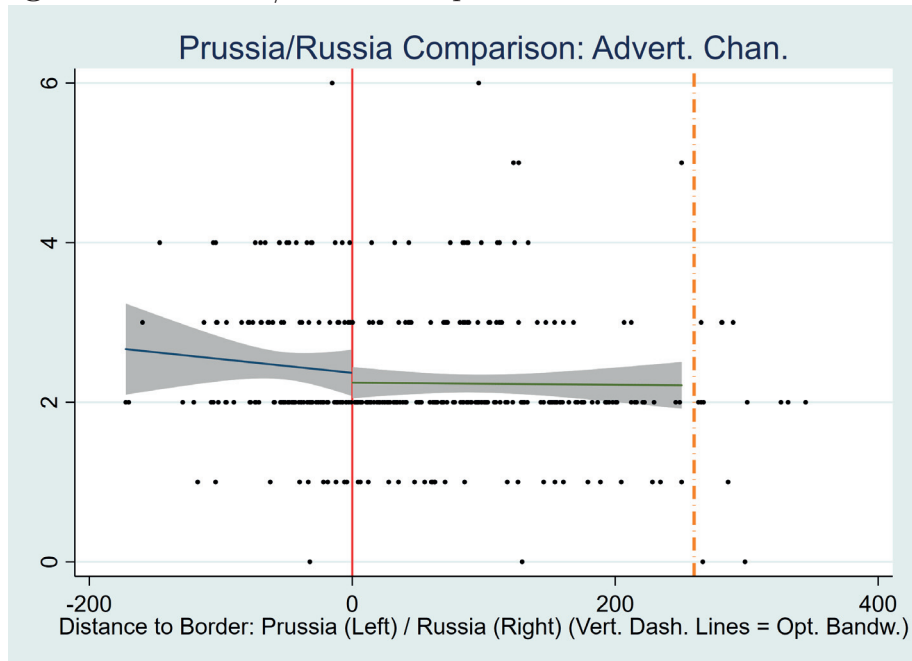


Figure 3.8: Prussia/Russia Comparison: Channels of Advertisement





### 3.6.4 Prussia/Russia Comparison: Border Samples

To show that observations furthest away from the border are not driving the results, I estimate regressions with limited samples around the historical border (based on Equation 3.3). I use the estimator by Imbens and Kalyanaraman (2012) in a linear regression framework to identify the “optimal bandwidth” and obtain values of approximately 135 km and 155 km for the number of employees and the number of applicants, respectively. I also obtain a bandwidth of approximately 260 km for the channels of advertisement, but this is too far a distance to make a credible claim with respect to a geographic discontinuity, so additionally I use bandwidths of 100-200 km.

Table 3.4, Table 3.5, and Table 3.6 show the results of these regressions; they are mixed but reveal some interesting patterns. Contrary to my expectations, I find that differences in the relative number of employees are not significant in most border samples. However, differences in the number of applicants per job are in the expected direction and significant (at  $\alpha < 0.1$ ) in several samples. The substantive effect ranges from approximately 18 percent to approximately 25 percent fewer applicants per job.

Moreover, communes that were in Interwar Germany perform consistently and significantly worse in terms of the number of applicants as well. Because of the population resettlements from the East after World War Two (see subsection 3.3.6), this can be seen as an *indirect* socio-cultural impact of imperial rule.

Finally, in terms of the channels of advertisement, the border samples reveal much stronger results than the regression based on the full sample. In all regressions ranging from 100-175 km, I find statistically significant results at  $\alpha < 0.05$  in the expected direction. The substantive effect of the legacy variable is more difficult to interpret in this case due to the logarithmic link function. The coefficient represents

a change in the logs of expected counts, ranging from -.103 to -.217. In general, these results indicate that Russian communes advertise their open positions through fewer channels than Prussian communes.

Furthermore, in the appendix (subsection 6.2.12), I include the results of density tests around the threshold, sensitivity tests (also using second-order polynomials), and placebo tests with arbitrary cutoff points.

**Table 3.4:** Prussia/Russia Comparison: Border Sample RD (Employees per 1,000 Inhabitants)

	<i>Dependent variable:</i>					
	Empl./Pop. (Log.)					
	< 100 km	< 125 km	< 135 km	< 150 km	< 175 km	< 200 km
	(1)	(2)	(3)	(4)	(5)	(6)
Russia	-0.004 (0.064)	0.027 (0.060)	0.039 (0.058)	0.049 (0.055)	0.069 (0.051)	0.082* (0.049)
Interwar Germany	0.050 (0.048)	0.061 (0.045)	0.070 (0.045)	0.065 (0.044)	0.069 (0.042)	0.070* (0.042)
Dist.	0.002* (0.001)	0.001 (0.001)	0.001 (0.001)	0.0003 (0.001)	0.0002 (0.0004)	-0.00000 (0.0004)
Dist. * Russia	-0.001 (0.001)	-0.0001 (0.001)	-0.0003 (0.001)	0.0001 (0.001)	-0.00003 (0.001)	0.0002 (0.001)
Constant	1.419*** (0.045)	1.384*** (0.042)	1.380*** (0.041)	1.366*** (0.038)	1.360*** (0.036)	1.348*** (0.034)
Observations	327	382	404	431	477	507
R <sup>2</sup>	0.030	0.024	0.023	0.021	0.018	0.017

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 3.5:** Prussia/Russia Comparison: Border Sample RD (Applicants per Job)

	<i>Dependent variable:</i>					
	Appl./Job (Log.)					
	< 100 km (1)	< 125 km (2)	< 150 km (3)	< 155 km (4)	< 175 km (5)	< 200 km (6)
Russia	-0.202 (0.169)	-0.293* (0.156)	-0.216 (0.144)	-0.239* (0.140)	-0.256* (0.135)	-0.291** (0.130)
Interwar Germany	-0.317** (0.124)	-0.264** (0.115)	-0.236** (0.112)	-0.244** (0.112)	-0.241** (0.109)	-0.237** (0.109)
Dist.	-0.002 (0.002)	-0.001 (0.002)	-0.002 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Dist. * Russia	-0.001 (0.003)	0.002 (0.002)	0.002 (0.002)	0.001 (0.002)	-0.0001 (0.002)	0.001 (0.001)
Constant	1.639*** (0.119)	1.629*** (0.106)	1.596*** (0.097)	1.630*** (0.095)	1.658*** (0.091)	1.656*** (0.088)
Observations	288	338	378	390	415	441
R <sup>2</sup>	0.057	0.037	0.042	0.040	0.041	0.036

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

**Table 3.6:** Prussia/Russia Comparison: Border Sample RD (Channels of Advertisement)

	<i>Dependent variable:</i>					
	Advert. Channels					
	< 100 km (1)	< 125 km (2)	< 150 km (3)	< 175 km (4)	< 200 km (5)	< 260 km (6)
Russia	-0.189** (0.084)	-0.217*** (0.077)	-0.157** (0.072)	-0.145** (0.067)	-0.109* (0.065)	-0.103* (0.061)
Interwar Germany	-0.004 (0.059)	-0.006 (0.055)	-0.012 (0.054)	-0.012 (0.053)	-0.011 (0.053)	-0.006 (0.054)
Dist.	-0.001 (0.001)	-0.0003 (0.001)	-0.0005 (0.001)	0.0001 (0.001)	0.0001 (0.001)	0.0003 (0.0004)
Dist. * Russia	0.003** (0.001)	0.003*** (0.001)	0.002** (0.001)	0.001 (0.001)	0.0001 (0.001)	-0.0003 (0.001)
Constant	0.865*** (0.056)	0.884*** (0.050)	0.877*** (0.047)	0.905*** (0.044)	0.902*** (0.042)	0.912*** (0.041)
Observations	290	343	383	421	447	481

Note: Q.-Poiss.

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 3.6.5 Austria/Russia Comparison: Full Sample

Now I compare the formerly Austrian and Russian parts. Table 3.7 shows that, with the full sample, there are significant differences with respect to employees. These results hold when including control variables and regardless of the function of geographic location (Equation 3.3, Equation 3.4), making this a consistent result. The substantive effect ranges from approximately 19 percent to approximately 40 percent more employees. Thus, on average, local public administrations in the formerly Russian parts are significantly less efficient than in the Austrian parts.

However, there are no significant differences in the number of applicants. What might cause the absence of statistically significant results here? Two possible reasons are (1) the smaller sample size (as Austria controlled a much smaller part of Poland) or (2) a lower level of uniformity in Austrian rule due to greater levels of local autonomy.

In the appendix (subsection 6.2.13), I find mixed results in terms of the channels of advertisement between the formerly Austrian and formerly Russian parts when using the full sample. The results are not significant when a large set of covariates is included, which could be caused by post-treatment bias.

Table 3.7: Austria/Russia Comparison: Full Sample

	<i>Dependent variable:</i>							
	Empl./Pop. (Log.)				App./Job (Log.)			
	Simple Distance		Lat./Long.		Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Russia	0.335*** (0.075)	0.195** (0.080)	0.304*** (0.083)	0.178** (0.089)	-0.080 (0.203)	0.220 (0.197)	-0.215 (0.223)	0.127 (0.217)
Revenue (Log.)		0.448*** (0.081)		0.438*** (0.082)		0.004 (0.203)		0.034 (0.202)
Pop. Dens. (Log.)		-0.107*** (0.031)		-0.120*** (0.033)		-0.008 (0.065)		-0.014 (0.066)
Powiat-Level City		-0.070 (0.112)		-0.055 (0.112)		0.385 (0.310)		0.281 (0.311)
Avg. Migr.		0.002 (0.004)		0.0001 (0.004)		-0.003 (0.009)		0.003 (0.009)
Unempl. Avg.		-0.006 (0.004)		-0.005 (0.005)		-0.016 (0.011)		-0.019 (0.012)
Academ. App.		-0.323 (0.210)		-0.330 (0.210)		0.401 (0.532)		0.330 (0.529)
Rural Commune		-0.165* (0.097)		-0.184* (0.102)				
Urban-Rural Comm.		-0.230*** (0.088)		-0.256*** (0.093)				
Population (Log.)						0.291*** (0.104)		0.320*** (0.104)
Dist.	-0.004*** (0.001)	-0.002 (0.001)	-0.002 (0.003)	0.001 (0.003)	-0.001 (0.003)	-0.005 (0.003)	-0.001 (0.007)	-0.006 (0.007)
Dist. * Russia	0.004*** (0.001)	0.002 (0.001)	0.002 (0.003)	-0.001 (0.003)	0.0005 (0.003)	0.005 (0.003)	0.004 (0.007)	0.012* (0.007)
Constant	1.093*** (0.065)	-1.315* (0.776)	2,301.790 (3,078.832)	3,989.324 (3,194.700)	1.462*** (0.176)	-1.717 (1.982)	2,589.401 (8,106.583)	-2,514.582 (7,901.753)
Observations	377	292	377	292	306	292	306	292
R <sup>2</sup>	0.069	0.268	0.085	0.296	0.005	0.149	0.042	0.195
Adjusted R <sup>2</sup>	0.061	0.239	0.054	0.244	-0.005	0.119	0.003	0.139

Note: OLS

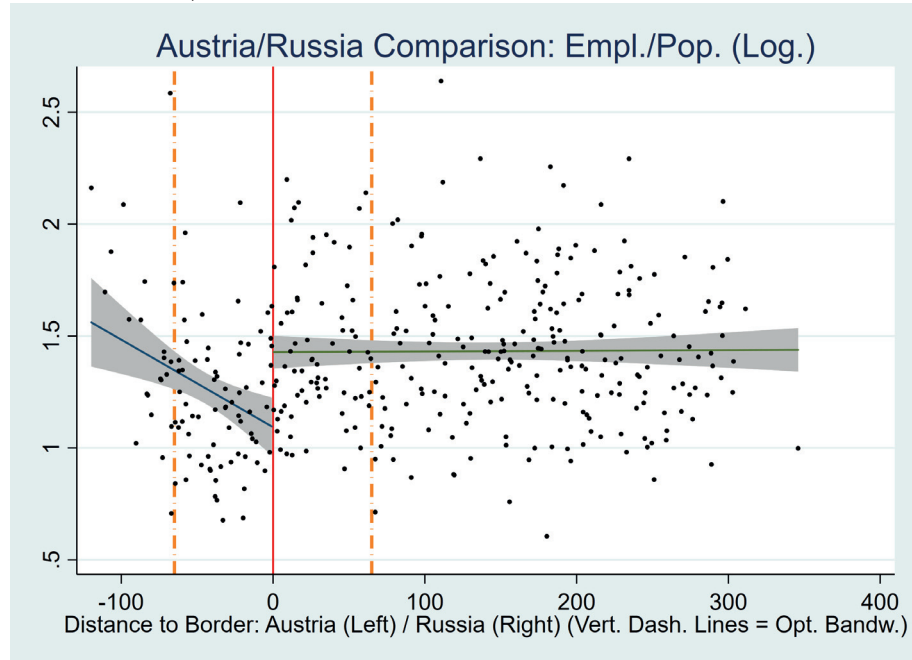
\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 3.6.6 Austria/Russia Comparison: Graphs

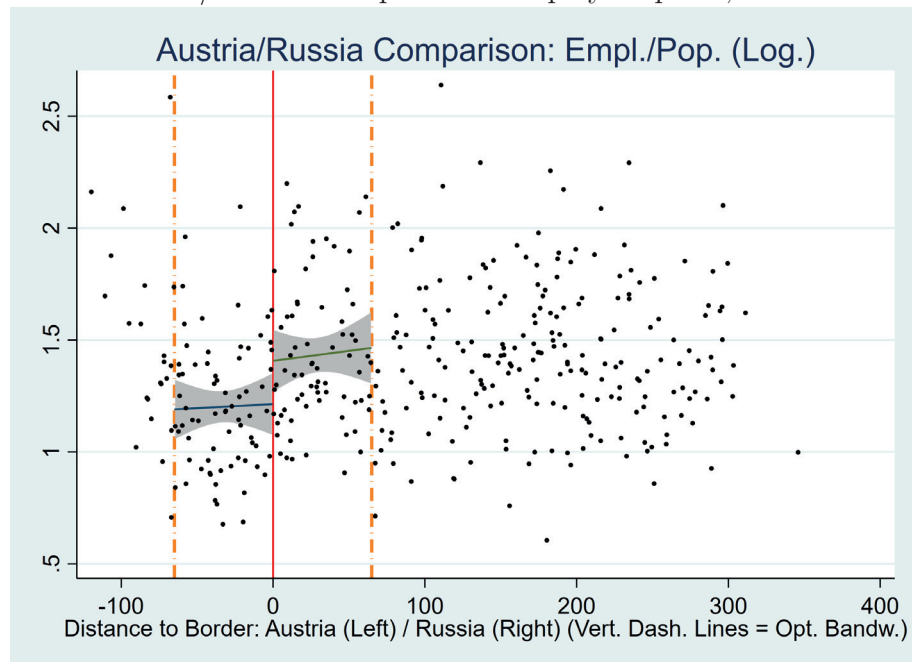
Figure 3.9 and Figure 3.10 show the geographic discontinuity with respect to the number of employees. Negative values denote distances of Austrian communes to the historical border. Positive values denote distances of Russian communes to the historical border. The significant impact of distance to the border in former Austrian Galicia is likely related to the fact that the more distant communes are located in the Austrian mountains.

Further graphs based on quadratic regressions and regarding the other two variables are included in the appendix (subsection 6.2.13). When compared to graphs based on linear models, some of these additional graphs using a quadratic regression indicate the possibility of convergence in bureaucratic organization in the immediate vicinity of the historical border. This pattern could be caused by spillover effects, which would violate SUTVA, and is thus problematic for an RD analysis. I discuss this issue and an option for addressing it below (subsection 3.6.11).

**Figure 3.9:** Austria/Russia Comparison: Employees per 1,000 Inhabitants (Log.)



**Figure 3.10:** Austria/Russia Comparison: Employees per 1,000 Inhabitants (Log.)



### 3.6.7 Austria/Russia Comparison: Border Samples

I again use the estimator by Imbens and Kalyanaraman (2012) to estimate the optimal bandwidth and obtain values of approximately 65 km, 170 km, and 110 km for the relative number of employees, the relative number of applicants, and the channels of advertisement respectively. I also use different bandwidths around the optimal ones, typically between 50/75 km and 150/175 km.

As Table 3.8, Table 3.9, and Table 3.10 show, there are significant differences between the Austrian and Russian parts of Poland in terms of employees in most border samples. Communes in the formerly Russian parts have significantly more employees per inhabitant than communes in the formerly Austrian parts, with the substantive effect ranging from approximately 11 percent to 37 percent. I also find some differences in terms of channels of advertisement (with a change in the logs of expected counts ranging from  $-.185$  to  $-.332$ ), but little to no difference in terms of the number of applicants. Even though the shortest bandwidth of 50 km does not reveal significant results, this is likely at least in part related to the substantially smaller number of observations. In the appendix (subsection 6.2.13), I include additional density tests, sensitivity tests (also using second-order polynomials), and placebo tests.



**Table 3.8:** Austria/Russia Comparison: Border Sample RD (Employees per 1,000 Inhabitants)

	<i>Dependent variable:</i>					
	Empl./Pop. (Log.)					
	< 50 km	< 65 km	< 75 km	< 100 km	< 125 km	< 150 km
	(1)	(2)	(3)	(4)	(5)	(6)
Russia	0.107 (0.112)	0.193* (0.098)	0.284*** (0.098)	0.273*** (0.091)	0.313*** (0.088)	0.306*** (0.084)
Dist.	0.005 (0.003)	0.0004 (0.002)	-0.001 (0.002)	-0.002* (0.001)	-0.004*** (0.001)	-0.004*** (0.001)
Dist. * Russia	-0.004 (0.004)	0.001 (0.003)	-0.001 (0.002)	0.003 (0.002)	0.004*** (0.002)	0.004*** (0.001)
Constant	1.295*** (0.084)	1.214*** (0.073)	1.177*** (0.073)	1.140*** (0.069)	1.093*** (0.068)	1.093*** (0.067)
Observations	108	142	161	189	212	236
R <sup>2</sup>	0.164	0.128	0.078	0.077	0.089	0.092

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 3.9:** Austria/Russia Comparison: Border Sample RD (Applicants per Job)

	<i>Dependent variable:</i>					
	Appl./Job (Log.)					
	< 75 km	< 100 km	< 125 km	< 150 km	< 170 km	< 175 km
	(1)	(2)	(3)	(4)	(5)	(6)
Russia	-0.357 (0.287)	-0.255 (0.267)	-0.211 (0.253)	-0.233 (0.236)	-0.265 (0.226)	-0.247 (0.221)
Dist.	-0.003 (0.005)	-0.002 (0.004)	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.003)
Dist. * Russia	0.012* (0.007)	0.007 (0.005)	0.002 (0.004)	0.002 (0.004)	0.003 (0.004)	0.003 (0.004)
Constant	1.394*** (0.212)	1.406*** (0.200)	1.462*** (0.193)	1.462*** (0.187)	1.462*** (0.183)	1.462*** (0.181)
Observations	131	154	170	191	210	219
R <sup>2</sup>	0.038	0.022	0.011	0.012	0.019	0.017

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 3.10:** Austria/Russia Comparison: Border Sample RD (Channels of Advertisement)

	<i>Dependent variable:</i>					
	Advert. Channels					
	< 50 km	< 75 km	< 100 km	< 110 km	< 125 km	< 150 km
	(1)	(2)	(3)	(4)	(5)	(6)
Russia	-0.185 (0.168)	-0.332*** (0.124)	-0.215* (0.122)	-0.219* (0.116)	-0.208* (0.113)	-0.244** (0.107)
Dist.	-0.002 (0.004)	0.003 (0.002)	0.002 (0.002)	0.002 (0.002)	0.001 (0.002)	0.001 (0.002)
Dist. * Russia	0.002 (0.006)	0.001 (0.003)	-0.001 (0.002)	-0.001 (0.002)	-0.0005 (0.002)	0.0004 (0.002)
Constant	0.836*** (0.116)	0.931*** (0.085)	0.894*** (0.086)	0.895*** (0.084)	0.879*** (0.082)	0.879*** (0.081)
Observations	87	132	157	166	173	194

Note: Q.-Poiss.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 3.6.8 Prussia/Austria Comparison: Full Sample

In the final set of tests (Table 3.11), I compare Prussia and Austria. Similar to the Austria/Russia comparison, the Austrian communes once again show a significantly smaller size. The substantive effect ranges from approximately 5 percent to 23 percent fewer employees. However, I do not find any statistically significant differences in terms of the relative number of applicants or the channels of advertisement. In the appendix (subsection 6.2.14), I present the results for the latter variable.

Table 3.11: Prussia/Austria Comparison: Full Sample

	<i>Dependent variable:</i>							
	Empl./Pop. (Log.)				App./Job (Log.)			
	Simple Distance		Lat./Long.		Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Austria	-0.176** (0.074)	-0.056 (0.071)	-0.266*** (0.094)	-0.098 (0.087)	-0.175 (0.203)	-0.324* (0.186)	-0.010 (0.258)	-0.131 (0.235)
Interwar Germany	0.097*** (0.036)	0.038 (0.034)	0.050 (0.047)	0.018 (0.045)	-0.206** (0.099)	-0.153 (0.093)	-0.301** (0.132)	-0.142 (0.127)
Revenue (Log.)		0.651*** (0.096)		0.574*** (0.101)		0.548** (0.266)		0.540* (0.285)
Pop. Dens. (Log.)		-0.138*** (0.026)		-0.148*** (0.026)		0.113** (0.050)		0.109** (0.053)
Powiat-Level City		-0.176** (0.077)		-0.159** (0.080)		-0.044 (0.241)		-0.056 (0.250)
Avg. Migr.		-0.002 (0.003)		-0.002 (0.003)		0.001 (0.009)		0.004 (0.009)
Unempl. Avg.		0.002 (0.003)		0.0004 (0.003)		0.004 (0.009)		0.004 (0.010)
Academ. App.		-0.138* (0.074)		-0.130* (0.074)		-0.108 (0.203)		-0.161 (0.206)
Rural Commune		-0.368*** (0.085)		-0.362*** (0.085)				
Urban-Rural Commune		-0.393*** (0.076)		-0.386*** (0.075)				
Population (Log.)						0.291*** (0.079)		0.301*** (0.080)
Dist.	0.00000 (0.0001)	0.0005*** (0.0001)	0.0001 (0.002)	0.002 (0.002)	0.0003 (0.0003)	-0.0002 (0.0004)	-0.002 (0.005)	-0.001 (0.004)
Dist. * Austria	0.001* (0.0004)	-0.001** (0.0004)	-0.004* (0.002)	-0.007*** (0.002)	-0.001 (0.001)	0.001 (0.001)	-0.008 (0.006)	-0.001 (0.006)
Constant	1.349*** (0.042)	-2.692*** (0.833)	2,620.569* (1,531.036)	871.582 (1,425.861)	1.770*** (0.114)	-6.027** (2.367)	-6,848.151 (4,303.525)	-1,985.407 (3,980.844)
Observations	376	322	376	322	335	323	335	323
R <sup>2</sup>	0.060	0.342	0.136	0.383	0.020	0.255	0.054	0.273
Adjusted R <sup>2</sup>	0.050	0.316	0.105	0.339	0.008	0.229	0.016	0.224

Note: OLS

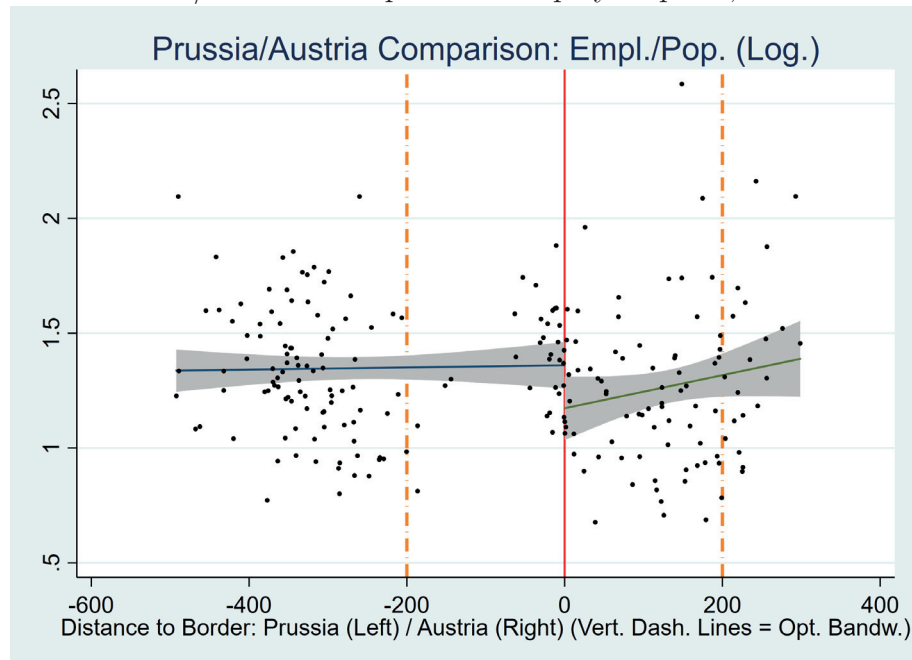
\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 3.6.9 Prussia/Austria Comparison: Graphs

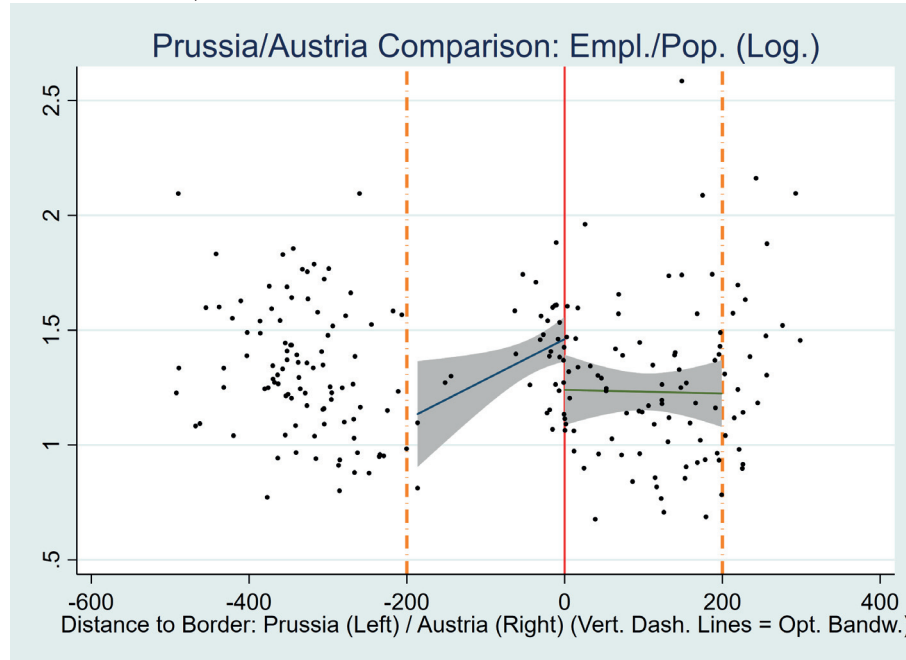
Figure 3.11 and Figure 3.12 show the geographic discontinuity in terms of employees. Negative values denote distances of Prussian communes and positive values denote distances of Austrian communes to the historical border. Similar to the previous comparison between Prussia and Russia, communes that historically belonged to Interwar Germany were removed from these graphs as they have to be treated separately.

In the appendix (subsection 6.2.14), I provide additional graphs using a quadratic regression and for the other two variables. Similar to the Austria/Russia comparison, these additional graphs indicate the possibility of convergence in bureaucratic organization in the immediate neighborhood of the historical border, which could be caused by spillover effects and therefore remains problematic for an RD analysis. Consequently, I discuss this issue and a possible response below (subsection 3.6.11).

**Figure 3.11:** Prussia/Austria Comparison: Employees per 1,000 Inhabitants (Log.)



**Figure 3.12:** Prussia/Austria Comparison: Employees per 1,000 Inhabitants (Log.)



### 3.6.10 Prussia/Austria Comparison: Border Samples

I again limit the sample to specific bandwidths around the historical border. I obtain an optimal bandwidth of approximately 200 km for the number of employees (Imbens and Kalyanaraman, 2012) but decide to use smaller bandwidths of 100-175 km as well.

The border samples confirm the notion that communes in the formerly Austrian parts are significantly more efficient than communes in the formerly Prussian parts, with between 13 and 20 percent fewer employees (Table 3.12). Although the shortest two bandwidths do not reveal significant results, this is likely related to the substantially smaller number of observations.

In the appendix (subsection 6.2.14), I provide border samples for the other two dependent variables. I additionally include density tests, sensitivity tests (including second-order polynomials), and placebo tests for arbitrary thresholds.

**Table 3.12:** Prussia/Austria Comparison: Border Sample RD (Employees per 1,000 Inhabitants)

	<i>Dependent variable:</i>				
	Empl./Pop. (Log.)				
	< 100 km	< 125 km	< 150 km	< 175 km	< 200 km
	(1)	(2)	(3)	(4)	(5)
Austria	-0.151 (0.094)	-0.136 (0.085)	-0.223** (0.096)	-0.216** (0.093)	-0.182** (0.091)
Interwar Germany	0.018 (0.104)	0.017 (0.098)	0.032 (0.100)	0.039 (0.093)	0.088 (0.083)
Dist.	0.0001 (0.002)	0.0003 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Dist. * Austria	-0.001 (0.002)	-0.002 (0.002)	-0.0003 (0.001)	-0.0005 (0.001)	-0.001 (0.001)
Constant	1.433*** (0.061)	1.438*** (0.055)	1.443*** (0.061)	1.441*** (0.060)	1.422*** (0.060)
Observations	82	100	121	139	161
R <sup>2</sup>	0.146	0.203	0.085	0.085	0.091

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 3.6.11 Matching

A general pattern emerges from the above analysis: When taking the entire distribution into account or when considering broader bandwidths around the imperial border, we observe several different imperial legacies in bureaucratic organization. However, when using narrow bandwidths or considering graphs based on quadratic regressions,<sup>39</sup> these effects become smaller or less significant. In some cases, when moving from a linear to a quadratic regression format, we even observe convergence in bureaucratic organization in the immediate vicinity of the historical borders. These patterns could be explained by spillover effects—in bureaucratic organization or the underlying socio-cultural factors—at the historical borders that occurred after the period of imperial rule. Such spillover effects are possible, considering that these empires disintegrated more than one hundred years ago, but they violate the important

<sup>39</sup>For these graphs, see the appendix (subsection 6.2.12, subsection 6.2.13, and subsection 6.2.14).

stable unit treatment value assumption.

If SUTVA is violated in the immediate vicinity of the historical borders, then we should conduct an alternative empirical test. Matching provides such an alternative empirical test because it allows us to isolate a specific set of comparison units that are broadly similar in underlying characteristics. At the same time, matching is not as strongly dependent on observations in the immediate vicinity of the historical borders.

To match observations, I use the same set of covariates as in earlier regressions in a genetic matching framework. Results of the analysis of matched data can be found in Table 3.13. They are broadly compatible with the results that were previously obtained. In particular, the performance of communes in the formerly Russian partition in terms of employees/population, applicants/job, and channels of advertisement is worse than the performance of communes in the former Prussian and/or Austrian partitions. Specifically, Russian communes have approximately 8 percent more employees, 22 percent fewer applicants, and they advertise their open positions through fewer channels than Prussian communes. Furthermore, they also have approximately 15 percent more employees than Austrian communes. These results are similar, though not completely identical, to previously obtained results, both in terms of the magnitude of the effect and the level of statistical significance. In general, the fact that I obtain similar estimates through a variety of different methods strengthens my overall confidence in the results.

However, while the direction of the effect is the same, genetic matching does not allow us to confirm the previous findings that Austrian communes have a higher level of efficiency when compared to Prussian communes. With respect to the Prussia/Austria comparison, the lower level of statistical significance is likely, at least in part, related to the circumstance that I have to rely on a much smaller sample

of only a little more than 100 observations when first going through the matching procedure. With respect to the 'channels of advertisement' variable, I cannot confirm some previously obtained results through matching.



**Table 3.13:** Comparisons Based on Genetic Matching

	<i>Dependent variable:</i>								
	Empl./Pop. <i>OLS</i>	App./Job <i>OLS</i>	Advert. <i>Quasi-Poisson</i>	Empl./Pop. <i>OLS</i>	App./Job <i>OLS</i>	Advert. <i>Quasi-Poisson</i>	Empl./Pop. <i>OLS</i>	App./Job <i>OLS</i>	Advert. <i>Quasi-Poisson</i>
	Prussia/Russia (Reg. 1-3)			Austria/Russia (Reg. 4-6)			Prussia/Austria (Reg. 7-9)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Russia	0.077** (0.039)	-0.293*** (0.098)	-0.106** (0.048)	0.168*** (0.042)	-0.038 (0.124)	-0.010 (0.054)			
Austria							-0.061 (0.062)	-0.188 (0.174)	-0.103 (0.077)
Constant	1.358*** (0.034)	1.664*** (0.085)	0.906*** (0.041)	1.266*** (0.038)	1.408*** (0.112)	0.809*** (0.047)	1.330*** (0.052)	1.677*** (0.143)	0.932*** (0.062)
Observations	371	295	299	356	270	288	130	114	118
R <sup>2</sup>	0.010	0.030		0.043	0.0003		0.008	0.010	
Adjusted R <sup>2</sup>	0.008	0.026		0.040	-0.003		-0.0001	0.001	

Note: Gen. Match.,  
OLS, Q.-Poiss.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 3.6.12 Summary

I generally find that communes from the formerly Russian parts of Poland perform worst on all three dimensions of bureaucratic organization discussed here. They are less efficient in terms of their relative size, have fewer applicants per job, and advertise their open positions through fewer channels than either the formerly Prussian or the Austrian communes. I also find limited evidence that Austrian communes are the most efficient in terms of their relative size (even when compared to Prussia), which gives some support to the notion that administrative decentralization can result in long-term efficiency gains for bureaucratic systems. However, several sets of comparison turned out insignificant, providing more mixed results in specific comparisons or with respect to specific variables. In short, even though the results vary somewhat, depending on the sample size, specification, and covariates, I find (sometimes limited) support for several of my hypotheses, specifically H1, H2, H3, and H4. At the same time, I am not able to provide sufficient evidence to give even limited support to H5 or H6.

In the appendix (subsection 6.2.10), I provide further results when considering communes from all partitions simultaneously instead of conducting analyses that are restricted to two partitions. These additional regressions broadly confirm what I have found above. In addition, I present several extensions of my analysis, including comparisons within present-day voivodeships (provinces) (subsection 6.2.15), an analysis that includes the political affiliation of mayors (subsection 6.2.16), and a geographic analysis that weights distance to the border (subsection 6.2.17).

### 3.7 Conclusion

This chapter addresses three major issues. The first one is the puzzle of regional variation in bureaucratic characteristics and whether this variation might be affected by historical imperial rule. The second one relates to the ongoing debate regarding the long-term effects of centralization versus decentralization. The third one concerns gaps and problems in the existing literature on imperial legacies in public administration. The most common weak spots of previous studies are (1) the predominance of indirect measurements of bureaucratic characteristics, (2) high levels of unobserved heterogeneity in the units of analysis, and (3) potential non-random selection into treatment. I respond to these deficits in previous contributions by using the case of divided Poland and its quasi-randomly placed imperial borders to directly assess the effects of past imperial rule on present-day bureaucracies. Because of the communist regime's comprehensive attempts to homogenize the public administration, Poland presents a 'hard test' case. My analyses provide mixed support for the hypotheses and show that the legacies of empires still affect some aspects of contemporary public administrations in Poland, whereas there also is little to no effect in some other comparisons.

Specifically, my finding that public administrations in the formerly Austrian parts are most efficient, especially when compared to Russian communes, indicates that a combination of modern bureaucratic institutions and administrative decentralization can have a positive impact on the long-term performance of bureaucracies. These findings are in line with several recent contributions (Iyer, 2010; Lee and Schultz, 2012).

Moreover, communes in the formerly Russian parts of Poland perform worst on several indicators of efficiency and meritocracy. An analysis of historical data from the interwar and communist periods suggests that the observed differences are deeply rooted and have survived different historical regimes. As existing studies, survey data, and my expert interviews show, this persistence can be explained with the endurance of culture, affecting administrative norms, and attitudes towards the bureaucracy, influencing recruitment patterns. The fact that communism was associated with a sustained homogenization of the legal-administrative framework—in combination with both the historical patterns observed as well as the results of my expert interviews—indicate that informal institutions are the most important carrier of persisting regional differences.

My findings are important to political economists—and especially scholars specializing in developing countries—because bureaucratic performance and efficiency are key factors in successful development. Inefficient bureaucracies can substantially hurt a country's chances to escape poverty, and low levels of meritocracy can contribute to corruption, decrease the effectiveness of policy implementation, and hinder economic growth (Dahlström, Lapuente and Teorell, 2012; Evans, 1995; Evans and Rauch, 1999). Corruption and patronage could also lead to anti-government protests and affect political stability (Gingerich, 2009). Moreover, bureaucratic organization may have a strong impact on other political or legal structures, which are similarly

relevant for economic development (Charron, Dahlström and Lapuente, 2012).

What are further implications of my findings? We could potentially observe regional differences in terms of bureaucratic characteristics related to past imperial rule in other parts of the world as well. In future studies, we need to go beyond the case of Europe to understand how bureaucratic institutions were imposed on colonies formally separated from a state's core territory. Another similarly interesting question would be under which conditions decentralization and indirect rule have favorable or unfavorable consequences. Thus, while this chapter has delivered some novel insights into the long-term effects of imperialism on public administrations, much work still has to be done to comprehensively understand the impact of past foreign rule on bureaucracies in different world regions and cultural contexts.

## Chapter 4

# The Complex Imprint of Foreign Rule: Tracking Differential Legacies Along the Administrative Hierarchy

### 4.1 Introduction

As shown in the previous chapter, historical foreign rule has a substantial long-term impact on the organization of administrative systems. The existing literature on colonial origins has demonstrated that this effect goes far beyond bureaucracies and covers a broad range of other aspects of political-administrative organization. In this respect, it would be important to seek answers to the following question: Could imperial rule affect state institutions at the national, regional, and local level differently?

No systematic theory and empirical test to answer this question exist—a surprising circumstance, considering the prominence of the literature that analyzes legacies of colonial or imperial rule with respect to state institutions, including political-economic structures (Acemoglu, Johnson and Robinson, 2002; Acemoglu, Johnson and Robinson, 2001; Acemoglu and Robinson, 2012; Galtung, 1971; Nathan, 2019; Nikolova, 2017; Paine, 2019), legal systems (Acemoglu et al., 2011; La Porta et al., 1997; La Porta et al., 1998), the provision of public goods as well as development (Di Liberto and Sideri, 2015),<sup>1</sup> and public administrations (Becker et al., 2016; Lange, 2004; Mkandawire, 2010).

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<sup>1</sup>For the indirect effect of colonialism on a country that remained independent (Siam), see Paik and Vechbanyongratana (2019).

While the second chapter of this dissertation has presented a theory of socioeconomic groups regarding bureaucracies in the developed world, there also is widespread agreement among scholars that historical colonization and imperialism significantly shaped political-administrative organization in the developing world.<sup>2</sup> However, much of the existing research aggregates data across the national, regional, and/or local levels of the administrative hierarchy—a practice that may obfuscate vital nuance observable in more fine-grained analyses (cf. Gingerich, 2013). Consider one more time the earlier example of La Porta et al. (1997), coding the United States as a “common law” country, without taking into account the French, Spanish, or Mexican civil law origins of some American state legal systems (Berkowitz and Clay, 2005; Berkowitz and Clay, 2012). Overlooking these and comparable differences along the administrative hierarchy can yield inconsistent results. This chapter elucidates those differences.

There are several examples of how puzzling results can arise from disregarding the administrative hierarchy. Grosfeld and Zhuravskaya (2015) find no imperial legacies in Poland with respect to “trust in government.” Yet it is unclear whether the question refers to the local, regional, or national government. If there is differential trust in governments along the administrative hierarchy, an aggregate measurement could obfuscate existing legacies. This could explain the discrepancy between their results and chapter 3, which provides evidence for imperial legacies in local-government efficiency and meritocracy. Furthermore, Levkin (2015) finds that there are no differences in “trust in bureaucracy” between the formerly Habsburg and formerly Ottoman parts of Romania. However, attitudes towards state institutions could differ between the national, regional, and local levels, and Becker et al. (2016) find that trust in regional state institutions (courts and the police) varies significantly across

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<sup>2</sup>This is also confirmed by chapter 3.

the Habsburg borders.

Therefore, in this chapter, I seek to address the following question: Do the legacies of foreign rule vary along the administrative hierarchy? My analysis covers both bureaucratic and judicial state institutions as both have been found to be significantly affected by colonialism. Considering the prominence of the colonial-origins literature, the answer to this question would be of importance to multiple disciplines of the social sciences, including political economy and public administration.

To answer the question raised above, I develop a *framework of imperial pervasiveness*. The framework consists of the following elements: I assume that, when empires integrate territories into their core boundaries, (1) the imperial rulers typically seek to establish effective control<sup>3</sup> over them, while (2) the people in those territories prefer to gain autonomy<sup>4</sup> from the imperial center and thus attempt to resist colonial control. Two constraints predict a more effective imposition of institutions at higher levels of the administrative hierarchy. First, empires are typically subject to resource limitations (Kennedy, 1988; Münkler, 2007, 47). Financial pressures likely force imperial rulers to optimize cost-effectiveness by prioritizing the funding of institutions that cover a wider area and a larger number of people, i.e. those at higher administrative levels. Second, building on insights from the literatures on political-economic organization (Hayek, 1945; Rodrik, 2007, Ch. 5), empires (Münkler, 2007, 125-126), and principal-agent theory (McCubbins, 2014; McCubbins, Noll and Weingast, 1987), I make the following argument: In complex social systems there are organizational constraints and informational asymmetries, limiting the effectiveness of centralized imperial rule with respect to lower administrative levels and giving the local population an informational advantage when resisting external rule. Accordingly, the

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<sup>3</sup>*Effective control* is defined as the ability of the imperial center to implement and enforce laws.

<sup>4</sup>*Autonomy* is defined as the ability of the local population to implement and enforce its own laws.



effectiveness of imperial institutions varies among the levels of the administrative hierarchy.

In this chapter, I test the framework of imperial pervasiveness with an original dataset from present-day Romania, which includes comprehensive information on citizen perceptions of state institutions. Romania is an ideal testing ground for my theory that aims to explain variations in the legacies of foreign rule. First, I am primarily interested in the institutions of the modern state and public administration, which developed in Europe and the Americas in the 19th and early 20th centuries (Raadschelders and Rutgers, 1996). Throughout this time period, the territories of present-day Romania were partially ruled by the Habsburg Empire and partially independent. Specifically, the region of Transylvania was ruled by the Austrian state between 1687 and 1866 and the Hungarian state—as a part of the Austro-Hungarian Empire—between 1867 and 1918. The other main parts of the Romanian nation (Wallachia and Moldavia) formed the Kingdom of Romania in 1866 and subsequently developed an early modern state. Figure 4.1 portrays the historical division.

**Figure 4.1:** The Austro-Hungarian Empire and Romania (1900) (This map is partly based on the following source: © EuroGeographics for the administrative boundaries.)



Similar to Poland's communist rulers,<sup>5</sup> the Romanian Communist regime aimed for the homogenization and unification of the country (Bădescu and Sum, 2005, 118; Hitchins, 2014, Ch. 6), which makes finding Habsburg legacies more challenging. Finally, the primarily military rationale of the border placement makes it possible to utilize a range of empirical techniques, including a geographic regression discontinuity design (RDD) (Becker et al., 2016; Levkin, 2015),<sup>6</sup> meaning that Romania represents an ideal case to test the theory developed here.

This chapter is organized as follows. First, I develop a theory of *imperial pervasiveness* and apply it to the Habsburg Empire. Then, I discuss the extent to which the historical situation in Transylvania fits my framework. In the subsequent sections,

<sup>5</sup>See the introduction to chapter 3 (section 3.1).

<sup>6</sup>For a more extensive discussion of this issue, see section 4.3 and the appendix (subsection 6.3.5).

I introduce the dataset and empirical approach and discuss the results. Following the conclusion, I provide a large number of additional discussions and analyses in the chapter's appendix (section 6.3).

## **4.2 Theory, History, and Hypotheses**

In this section, a theory regarding the pervasiveness of imperial rule at various levels of the administrative hierarchy is introduced and testable hypotheses for the case of Habsburg rule in Romania are derived.

### **4.2.1 Framework of the Differential Effects of Imperial Rule and an Application to the Habsburg Empire**

We need to distinguish between at least three different forms of imperial rule. Empires can either (1) integrate territories into their core state boundaries, (2) establish a formal colony to rule directly, or (3) indirectly rule a territory by rendering it dependent while not implementing institutions (Gerring et al., 2011). My theory is focused on the first type of imperial domination, which was common in Europe. As demonstrated in chapter 3, Russia, Germany, and the Habsburg Empire typically integrated occupied lands into their core territory and imposed their own political-administrative institutions to consolidate their rule. In general, the inhabitants of foreign-controlled territories desired autonomy and sought opportunities for resistance (Ferwerda and Miller, 2014).

For the Habsburg rulers, effectively controlling occupied territories was a major concern. The ability to enforce laws was particularly relevant for the core functions of the state, such as tax collection and military conscription. Concerns about effective control of occupied territories and related issues caused two major efforts towards

a more centralized administrative system. First, after military conflicts in the 18th century, the Habsburgs recognized that fragmentation in administrative organization was disadvantageous for military mobilization (Deak, 2015, 9-12, 16; Hochedlinger, 2003, 7-9; Judson, 2016, 4-5, 16, 26-29; Kann, 1974, 174-178). Moreover, after the 1848/49 revolutions, the centralization and unification of administrative organization was seen as a necessary response to resistance against Habsburg rule. Consolidation of control through a uniform and centralized public administration was an enduring goal of the Habsburgs (Deak, 2015, 70, 95-96; Judson, 2016, 54, 71, 103-107, 218-219).<sup>7</sup>

Even though empires have incentives to control acquired territories—especially when those lands are part of their core state—the resources at their disposal are limited, meaning that pressures to allocate funding to maximize cost-effectiveness are high (Münkler, 2007, 47). The full control of all localities within a foreign territory is costly, and excessive expenditures often contribute to imperial decline (Kennedy, 1988). While the longevity of the British empire can be linked to its cost-effectiveness, comparing the burden of maintenance to the economic benefits (Edelstein, 1982; Offer, 1993), the downfall of the Spanish empire is often attributed to its poor fiscal management (Münkler, 2007, 66). Considering these financial pressures, empires have incentives to prioritize the funding of institutions that cover the widest territory and the largest number of people.

Similarly, the Habsburg state was always subject to financial pressures as reflected by an enduring budget deficit (Deak, 2015, 30-33, 133; Hochedlinger, 2003, 30-34; Judson, 2016, 26-28, 45, 72, 108, 220; Münkler, 2007, 63), which directly affected the financing of its administrative apparatus (Hochedlinger, 2003, 34; Judson, 2016,

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<sup>7</sup>This also means that, in contrast to many empires that had overseas colonies (Pierskalla, De Juan and Montgomery, 2019), the goal of the Habsburg state was the effective control of its *entire* territory, not just a number of select valuable regions.

43). Thus, achieving cost-effectiveness in administrative organization was the driving goal behind reforms of the state (Kann, 1974, 177). Bureaucratic structures had to be constructed in a way that allowed for the maintenance of Habsburg rule while minimizing financial burdens (Deak, 2015, 9-12, 15-16, 21-22, 26, 107, 133, 138-141; Judson, 2016, 72, 108, 219). These circumstances explain why Habsburg rulers had incentives to prioritize the funding and control of institutions that covered a more extensive geographic area and a larger number of people, while they often delegated local responsibilities to the landed nobility and other actors (Judson, 2016, 43).

Furthermore, bureaucracies sometimes experience limits with respect to the flow and management of knowledge (Tullock, 2005). Complex social systems are often difficult to control by imperial rulers as the aggregation of information can push highly centralized political structures to their organizational limits (Hayek, 1945; Münkler, 2007, 125-126; Rodrik, 2007, Ch. 5). The imperfect aggregation of knowledge—along with informational asymmetries between the imperial center and the local population, comparable to asymmetries in a principal-agent relationship (McCubbins, 2014; McCubbins, Noll and Weingast, 1987)—likely gives the ruled people an informational advantage when resisting foreign institutions. In turn, the level of effective control that empires enjoy decreases, while the space for resistance and the likelihood of tensions with the population increase, as we move lower down the administrative hierarchy.

The Habsburg Empire experienced such constraints as well. Even though it had a relatively modern bureaucracy and legal system as of the late 18th and early 19th centuries (Deak, 2015; Foster, 2003, 13-14; Judson, 2016, 107; Raphael, 2000, 58-59), its public administration faced challenges of information flow and effective local control. The large number of languages spoken within the Empire's boundaries and its cultural, religious, and ethnic fragmentation were partially constitutive of these

limits. Moreover, representatives of the state found themselves in struggles with members of the local nobility or other forces for local autonomy, indicating tensions at the local level. All of this meant that the power of the imperial center did not reach all localities (Deak, 2015, 13-16, 30, 38-41, 44-49, 88-90; Judson, 2016, 18-19, 38-39, 43-49, 79-81). During the period of neo-absolutism in 1849-59, the state expanded its reach, but heterogeneity in local conditions and financial pressures remained severe constraints (Deak, 2015, Ch. 3-4; Judson, 2016, 218-220).

**Table 4.1:** Constraints on Imperial Rule and Consequences for the Implementation of Institutions

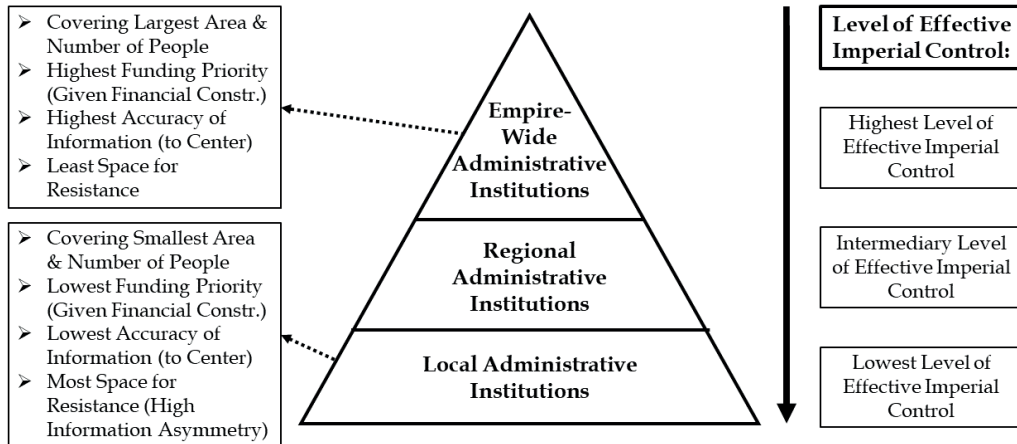
Dimension	Constraints	Consequences
Finances	Limited financial resources of the imperial center	Prioritization of funding for institutions covering a more extensive area/population
Information	Imperfect aggregation of information by center & informational asymmetries	Resistance more successful against lower-level institutions

In short, if there is resistance against the imposition of imperial institutions, two factors predict a differential effect along the administrative hierarchy. As illustrated in Table 4.1 and Figure 4.2, the combination of resource constraints and limits to the aggregation of knowledge along with informational asymmetries means that foreign rule can be expected to be less effective and experience more tensions with the local population as one moves down the administrative hierarchy. All of these predictions can be observed in the Habsburg Empire.



Figure 4.2: Framework of Imperial Pervasiveness

## Framework of Imperial Pervasiveness



### 4.2.2 The Imperial Administration in Transylvania (1849-1918)

Throughout the 19th and early 20th centuries, when the modern public administration came into being (Raadschelders and Rutgers, 1996), Transylvania—a region of present-day Romania—was part of the Habsburg Empire. Since the early 19th century, the Habsburg public administration had been similar to the modern bureaucracy envisioned by Weber (Becker et al., 2016; Deak, 2015, 21, 29; Taylor, 1948, 38). However, the imposition of Habsburg institutions in Transylvania was multi-faceted.

Before 1848, the local landed elites of Transylvania administered their lands themselves (Deak, 2015, 44-45; Judson, 2016, 42-43, 80-85). However, the external imposition of modern administrative institutions began after 1848. At first, between 1849 and 1867, the Austrian state pursued a policy of “[e]xcessive centralization and ... Germanization” (Treptow, 1996, 330).<sup>8</sup> On the one hand, this entailed the intro-

<sup>8</sup>See also Bodea and Căndea (1982, 52) and Hitchins (1994, 202-203).

duction of modern and rational bureaucratic and legal institutions, which had been developed by Austria (Deak, 2015; Foster, 2003, 13-14; Raphael, 2000, 58). On the other hand, it conflicted with the Romanian goal of gaining greater autonomy (Hitchins, 1994, 4-5, 202; Kann, 1974, 304). Between 1863 and 1865, there was a brief period of liberalization with higher levels of Romanian self-administration, but these changes remained temporary (Bodea and Căndea, 1982, 53; Treptow, 1996, 330-334). In contrast to some non-European cases (Arias and Girod, 2014; Hariri, 2012),<sup>9</sup> the Romanians of Transylvania were neither able to prevent the imposition of foreign institutions nor did their traditional administrative organization persist beyond 1848.

In 1867, following the defeat of Austria in the war against Prussia, the *Dual Monarchy* of Austria-Hungary was established (Deak, 2015, 167-171; Hoensch, 1996, 16-19; Judson, 2016, 259-264; Kann, 1974, 332-342; Sked, 2001, 191-202). As a consequence, Transylvania fell under Hungarian administration (Bodea and Căndea, 1982, 53). Even though the Hungarian state institutions—like Austria’s—were closer to the modern bureaucracy than administration by the landed elites (Küpper, 2017), significant tensions arose between the bureaucracy and the Romanians. The Hungarian government wanted to achieve a *Magyar* (Hungarian) empire and aimed to integrate Transylvania politically, administratively, and culturally. Hungarian bureaucratic institutions were imposed on both the regional and local level. With the goal of removing Romanian national identity, Hungarian became the official national language and required in schools. Furthermore, the political structure of Transylvania was designed to maximize the electoral influence of Hungarians over Romanians. Therefore, achieving political autonomy became a key goal of the Romanians in Transylvania (Bodea and Căndea, 1982, Ch. 12-13; Hitchins, 1994, 202-230; Hitchins,

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<sup>9</sup>Regarding the long-term impact of pre-colonial developments, see also Wilfahrt (2018).



2014, 144-145; Hoensch, 1996, 28-31; Sked, 2001, 212-216; Szász, 2002, 669-677; Treptow, 1996, 336-339).

After the compromise of 1867, the Hungarian government increasingly “sought to exercise greater control over county and local government” (Judson, 2016, 344), which led to strong Romanian resistance. “Of the three communities [of Transylvania, Bucovina, and Bessarabia], the Rumanians of Transylvania put up the strongest defence of their national existence” (Hitchins, 1994, 202).<sup>10</sup> Measures of both active and passive resistance were taken against Transylvania’s integration into the administrative structures of Hungary (Bodea and Cădea, 1982, 59; Hitchins, 1994, 204-205, 216-217; Szász, 2002, 669-670). In a memorandum to the Emperor, Romanian politicians and intellectuals demanded Transylvania’s autonomy (Hitchins, 1994, 208-209; Treptow, 1996, 336).

The opposition to administrative integration was so strong because the Hungarian bureaucracy was accused of participating in the destruction of Romanian culture and political development (Hitchins, 1994, 212). In the late 19th century, under prime minister Bánffy, the attempts of Magyarization supported by the public administration became even more intense—all the way to the local level (Szász, 2002, 695-696). Because the Romanian majority only represented six percent of bureaucrats (Treptow, 1996, 338-339) and the Hungarian language dominated in administrative affairs (Hoensch, 1996, 31; Judson, 2016, 267), the alienation between the public administration and the Romanian inhabitants of Transylvania grew stronger, and the latter called for more representation (Szász, 2002, 674-675).

Hechter (2013) argues that foreign rule is more likely to be seen as legitimate if it is considered effective and fair. With respect to fairness, the Hungarian public administration did not work indiscriminately—instead, it often put Romanians at a

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<sup>10</sup>See also Bodea and Cădea (1982, 54).

disadvantage, especially with respect to the enforcement of regulations (Bodea and Căndea, 1982, 55-56). This can partially explain why the Hungarian administration was perceived as corrupt and why there was such strong opposition to it. However, building upon Hechter (2013) and my previous discussion, differential effectiveness of institutions at the regional and local levels likely means that institutions at the upper levels of the administrative hierarchy are likely to have been perceived as more legitimate.

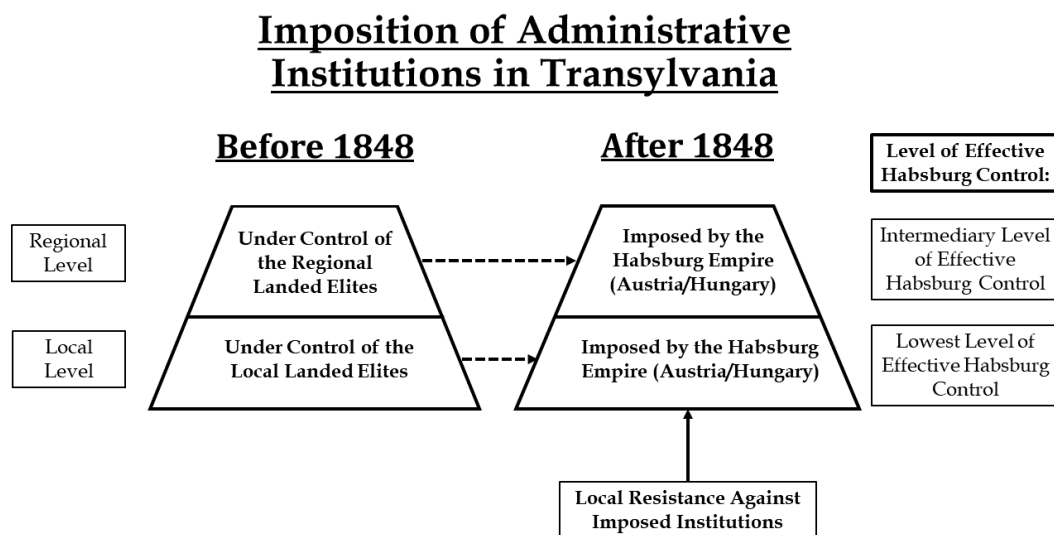
In the legal realm, too, the Hungarian state was moving closer to the modern *Rechtsstaat*, amongst others, by establishing independent courts as of 1869. The goal of modernization motivated judicial reforms that lasted throughout the late 19th century (Küpper, 2017, 294-295, 299-300). The Romanians enjoyed essential rights, including the rights to property and individual freedom (Bíró, 1992, Ch. 5). Yet at the same time, the Hungarian laws and their enforcement through the legal system were seen as essential to the denial of Romanian autonomy (Hitchins, 1994, 204-207; Molnár, 2001, 223). The courts also rejected petitions in Romanian (Judson, 2016, 267). Thus, while the system was close to the modern *Rechtsstaat*, in that it successfully protected essential individual rights, regardless of background, it also denied the Romanians political autonomy and prohibited the use of their own language in legal affairs.

In sum, before 1848, Transylvania was administered by its nobility. The introduction of modern bureaucratic and legal institutions began after 1848. For approximately two decades, this was associated with comprehensive attempts of ‘Germanization.’ Additionally, following the Austro-Hungarian compromise of 1867, there was the imposition of Hungarian administrative and legal institutions, leading to strong resistance by the Romanian population.

Based on my theory, I expect that foreign rule had some positive long-term effects:

The externally imposed public administration and legal system were closer to the modern state than traditional control through the nobility. However, as illustrated in Figure 4.3, strong resistance against external rule by the local population means that effects may differ along the administrative hierarchy. Following my framework, emphasizing informational and financial constraints, I expect the imposition of public institutions to be less effective and associated with greater tensions at the local level.

**Figure 4.3:** The Imposition of Administrative Institutions in Transylvania



### 4.2.3 The Romanian State and Its Institutional Development (1866-1918)

In the years 1866-67, amid the integration of Transylvania into Hungary’s administrative structures, a Romanian state was founded in the regions of Wallachia and Moldavia. Its 1866 constitution was a liberal document with middle-class principles at its core (Hitchins, 1994, 17-22; Hitchins, 2014, 113-115). The party system was dominated by the Conservative Party and the National Liberal Party (Hitchins,

1994, 17-22; Hitchins, 2014, 113-115). The former represented landowners, the latter represented the professional, commercial, and industrial middle class. The National Liberals enjoyed most influence during the initial decade of the Romanian state. Afterwards, there was a rotation and sharing of power between the two. Simultaneously, the working class, or peasants, who were the majority of the population, had little to no influence (Hitchins, 1994, 19-22, 92-96; Hitchins, 2014, 127-129; Treptow, 1996, 297).

Prior to the 19th century, Wallachia and Moldavia were part of the Ottoman Empire. The Ottomans had attempted to impose their own administrative institutions in 1595, but had failed due to military backlashes (Treptow, 1996, 158). Even though Wallachia and Moldavia subsequently had to pay tributes, the two provinces retained a high level of autonomy, did not adopt Islamic institutions, and never introduced millet courts or the *timar* system (Levkin, 2015; Pamuk, 2004, 230; Sugar, 1996, 113, 121; Treptow, 1996, 158-159). Instead, many local customs and institutions remained in use (Levkin, 2015; Pamuk, 2004, 230; Sugar, 1996, 121). As the Ottomans did not impose an administrative apparatus on Wallachia and Moldavia, left local institutions in place, and never had a modern bureaucracy of their own—which only developed in Romania after 1866 (Hitchins, 1994, 1)—the Ottoman impact on administrative institutions was relatively minor.

The most decisive events shaping the public administration of Romania happened long after Ottoman influence had waned. In 1864, the *Communal Act* and the *Act for the Establishment of County Councils* established a common framework for the organization of local administration, and the 1866 constitution established the central administration (Dinca, 2012, 9-11). Furthermore, the Brătianu government (1876-88) initiated major reforms aimed at further centralization of the state, including the 1884 constitutional revision (Hitchins, 1994, 96; Hitchins, 2014, 130).

However, the modernization and unification of the bureaucratic system in the form of a unitary state was only completed in the interwar period (1918-1939) (Dinca, 2012, 13-20). This means that in the late 19th and early 20th centuries, the Romanian bureaucracy still lagged behind its Austrian and Hungarian counterparts, which had mostly completed this process (Deak, 2015; Küpper, 2017; Molnár, 2001, 223; Wiederin, 2017). Nonetheless, in 1901, the number of civil servants expanded to two percent of the population (Hitchins, 1994, 162), and Romania had developed a strong executive with a centralized bureaucracy (Hitchins, 2014, 112). Thus, while the Habsburg bureaucracy was still seen as more capable than the public administration of its neighbors to the East and South, as it had been in the past (Becker et al., 2016, 47-48), legislation was gradually moving Romania towards a modern bureaucracy (Dinca, 2012, 7-13).

In terms of the legal-judicial system, the Romanian state was moving closer to the modern *Rechtsstaat*. The principle of equality before the law had already been formally established in Wallachia and Moldavia in 1856 (Dinca, 2012, 8) and was confirmed by the 1866 constitution (Hitchins, 2014, 113). However, in practice, the legal system did not offer equality to women and the Roma (Hitchins, 2014, 115-116), the working class had no protection against exploitation (Hitchins, 1994, 163), and Jews were denied essential civil and political rights (Hitchins, 1994, 164-166). Thus, despite some progress, the Romanian legal system did not fully meet the standards of the modern *Rechtsstaat*, while the Habsburg Empire was more advanced in the judicial realm (Bíró, 1992, Ch. 5; Deak, 2015, 170-171; Foster 2003; Judson, 2016, 107; Küpper, 2017).

To summarize, Wallachia and Moldavia began the development of modern state institutions in the 1860s. Both the Austro-Hungarian and Romanian public administrations were centralized systems. However, two crucial differences remained. First,

the Habsburg bureaucracy and legal system were closer to the standards of the modern state than their equivalents in the Kingdom of Romania. Second, the former was associated with an undermining of Romanian political, administrative, and cultural autonomy, which led to strong local resistance.<sup>11</sup>

#### 4.2.4 Hypotheses

The legal and administrative institutions imposed in Transylvania were close to the modern bureaucracy and *Rechtsstaat* and meant significant advancements compared to administration through the landed elites. However, the denial of political autonomy and the comprehensive exclusion of Romanians from the state apparatus led to alienation from and resistance by the Romanian population. The administrative and legal systems of the Kingdom of Romania were similar, especially in the degree of centralization, but did not come as close to modern state standards as the Austro-Hungarian institutions.

Considering my framework, I anticipate divergent long-term effects of the imposition of administrative institutions at the regional and local levels. I expect that the implementation of modern state institutions was more effective at the regional level and less effective—and subject to greater tensions with the population—at the local level. I also expect their legacies to differ accordingly.

Yet it is difficult to assess the operational effectiveness of state institutions with perfect accuracy. Since I rely on survey data from Romanian citizens, my measurements represent *perceptions of public institutions* and my testable hypotheses are focused on variations in those perceptions. In the following section, I discuss if and how this could be problematic for my analysis.

From the discussion, I derive two hypotheses:

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<sup>11</sup>I discuss the special status of Bucovina in the appendix (subsection 6.3.1).

**Hypothesis 1:** State institutions at the regional level in parts of Romania that were under the control of the Habsburg Empire (Austria-Hungary) will operate more efficiently and be perceived more positively than in the parts that were not under control of the Habsburg Empire.

**Hypothesis 2:** State institutions at the local level in the parts of Romania that were under the control of the Habsburg Empire (Austria-Hungary) will either show no difference to or operate less efficiently and be perceived less positively than in the parts that were not under control of the Habsburg Empire.

#### 4.2.5 Mechanisms of Inter-Temporal Transmission

Why would we expect any long-term effects of the historical imposition of administrative institutions in the present day? In other words, is it generally plausible to expect legacies of political structures that disintegrated long ago? In this section, I provide suggestions and discuss evidence for the plausibility of my hypotheses. In addition to the broader literature, which has revealed imperial legacies in many dimensions of political-administrative organization, several contributions demonstrate legacies in public administration specifically (Becker et al., 2016; Lange, 2004; Mkan-dawire, 2010). Based on these contributions, other strands of the political economy literature, and the insights from chapter 3, I outline two inter-related mechanisms of transmission that could apply in the case of Romania.

First, the fiscal-compliance literature demonstrates that perceptions of state institutions can have an impact on the interactions between citizens and the state (Bräutigam, Fjeldstad and Moore, 2008; Fjeldstad and Semboja, 2001; Levi, 1989; Levi, 1997). Perceptions of the state could shape expectations towards it, which in turn could influence the interaction between citizens and bureaucrats (Bustikova and

Corduneanu-Huci, 2017; Chamlee-Wright and Storr, 2010; Vogler, 2019).<sup>12</sup> A study by Becker et al. (2016) shows that Habsburg legacies still influence perceptions of state institutions in Eastern Europe. Furthermore, Bustikova and Corduneanu-Huci (2017) demonstrate that historical levels of trust in the state have long-term effects on clientelism, which could ultimately affect administrative performance.

Second, attitudes towards the state could be one aspect of the inter-generational transmission of norms. A prominent literature has provided evidence for cultural persistence over time and its impact on institutions (Alesina and Giuliano, 2015; Grosfeld and Zhuravskaya, 2015). Evidence for the inter-generational transmission of cultural norms in Transylvania is provided by Karaja and Rubin (2017), who find observable differences with respect to social trust along the historic borders, Bădescu and Sum (2005), who present evidence that participation in civil society is higher in Transylvania, and Levkin (2015), who finds that trust in strangers and even voting patterns differ across the Habsburg borders. Additionally, chapter 3 shows that such historically rooted cultural differences are likely to affect administrative organization and behavior.<sup>13</sup>

To identify mechanisms of inter-temporal transmission, I have conducted eight semi-structured expert interviews in Bucharest and Cluj-Napoca. Scholars of sociology and public administration as well as one local politician and two bureaucrats were interviewed. The result of the interviews is that persistent differences in regional culture and social memory could be responsible for enduring variations in the perceptions of state institutions. According to these interviews, public institutions in Transylvania work more effectively on average, meaning that the state is seen as more reliable and personal relationships are less important. A different social and cultural

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<sup>12</sup>See also the discussions of the mechanisms of inter-temporal persistence in chapter 2 (section 2.3) and chapter 3 (section 3.4).

<sup>13</sup>See also subsection 6.2.5.



memory makes Transylvanians proud of their heritage, and they perceive themselves as better organized and more civilized than people in the rest of Romania. This complex set of perceptions of the state, social memory, and culture could be responsible for persistent differences in socialization, attitudes towards public institutions, and the real behavior of bureaucrats. More information on the interviews can be found in the appendix (subsection 6.3.2 and subsection 6.3.3).

To summarize, there have been several studies in political economy that have demonstrated long-term legacies of empires regarding public administrations. With respect to Romania, we have support for regional differences in culture, social memory, and identity. Those are likely to be key reasons for differential effectiveness and perceptions of public institutions. However, a combination of research from multiple disciplines, particularly cultural anthropology, would be necessary to provide conclusive answers to this question.

### **4.3 Empirical Test**

To empirically assess imperial legacies, I conducted an original survey focused on perceptions of public institutions in Romania. My primary goal was to explore differences between (1) the formerly externally ruled and the formerly independent parts of Romania and (2) institutions at different levels of the administrative hierarchy. I look for a combined effect of historical foreign rule and the level of the administrative hierarchy under consideration. Thus, I included questions on the perception of both local public institutions and region- or district-wide public institutions. The data represent a random sample of Romanian citizens from both urban and rural areas. The interviews were executed face-to-face by trained specialists of the Romanian survey firm INSCOP. A total of 1,001 adults were surveyed in April and May 2017.

As my data is based on perceptions, I have to acknowledge the possibility that it is not the underlying performance of these institutions which differs, but merely views thereof. In this regard, Marvel (2016) demonstrates that deeply-rooted attitudes towards bureaucracies can affect performance evaluations even when recent information is provided. Several responses can be given to this possible limitation. First, as Chamlee-Wright and Storr (2010) demonstrate, perceptions of government action affect citizen behavior even in the most critical situations, such as natural disasters. Furthermore, negative perceptions of governments, for example perceived corruption, could undermine the legitimacy of political rulers (Gingerich, 2009; Seligson, 2002). Thus, perceptions and expectations are likely to affect the real behavior of citizens and might ultimately also influence the quality of public services.<sup>14</sup>

Another potential problem is measurement error. Previous research has revealed that the ‘objective’ quality of public services and citizen satisfaction with those services are not always correlated (Kelly and Swindell, 2002). These concerns may be related to how exactly public-service quality is measured or quantified (Andrews, Boyne and Walker, 2006). I address concerns about possible measurement error in two ways. First, I abstain from asking questions about public-service quality in areas difficult to observe or quantify for citizens. Instead, I focus on questions that are easy to quantify or do not require quantification at all. Second, in order to minimize bias from systematic differences in subjective scales (which could happen more easily if the true differences were only in perceptions instead of underlying performance), I ask questions about procedures that most citizens have direct exposure to and that are easy to put into numbers, such as waiting times. Furthermore, since trained survey specialists collected the data, I have no reason to believe that any systematic

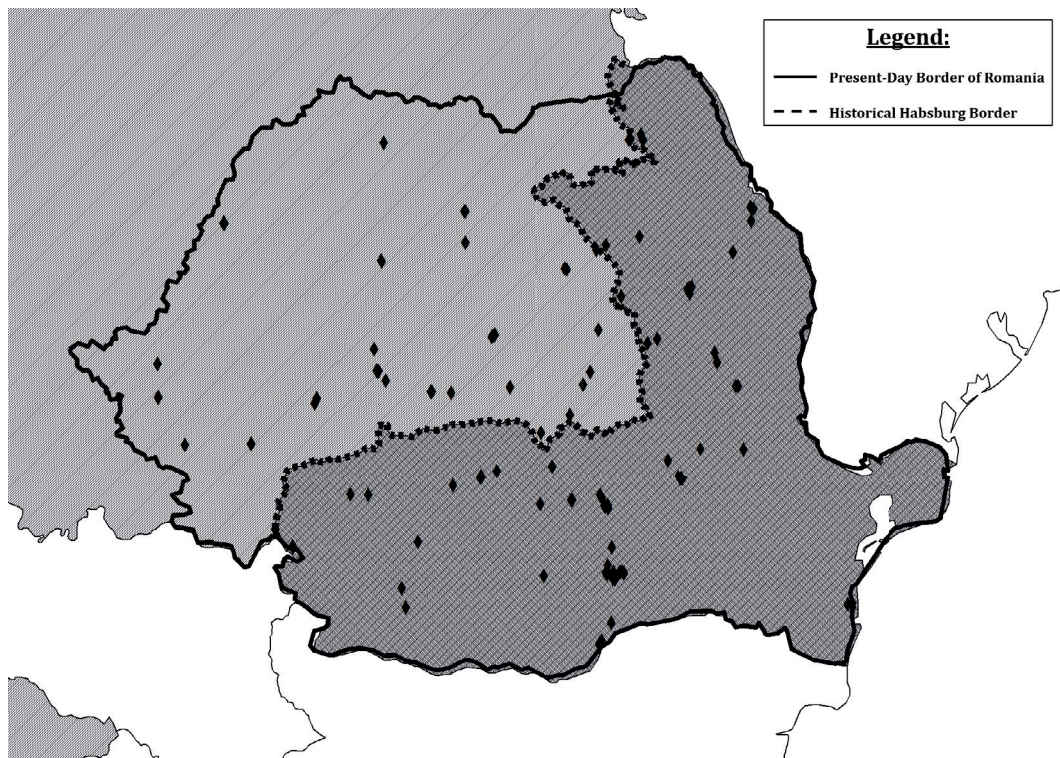
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<sup>14</sup>Additionally, chapter 3 shows that more positive views of the state lead to the self-selection of more applicants to the bureaucracy, which likely increases competitiveness and could thereby ultimately enable the provision of higher-quality public services.

measurement error was induced by the interviewers. Nonetheless, following Andrews, Boyne and Walker (2006), future contributions considering these issues could improve on the study at hand by considering a more diverse set of performance indicators.

Figure 4.4 shows the locations of respondents on a map of Romania with the present-day borders represented by a solid black line and the historical division superimposed. Information on the historical borders was obtained from Nüssli and Nüssli (2008) and information on the present-day borders from Eurostat (2017a).

**Figure 4.4:** Division of Romania (1866-1920) and the Survey Locations (2017) (This map is partly based on the following source: © EuroGeographics for the administrative boundaries.)



I apply a geographic RDD, with the imperial borders as the historical discontinuity. Below, I elaborate on the assumption of quasi-randomness and the specifications of my regressions.

In the empirical analysis, I evaluate the perceptions of state institutions at the

local and regional levels. With respect to the local level, I use the following variables:

1. Perceptions of the frequency of corrupt practices at the local public administration (at the level of the municipality, city, or commune)
2. The wait times to apply for an ID, which is an administrative task at the local level (available in the nearest municipality)
3. Trust in the local public administration (at the level of the municipality, city, or commune)
4. Perceptions of the efficiency of the local public administration (at the level of the municipality, city, or commune)

An investigation of corrupt practices is particularly important from the perspective of political economy because corruption significantly inhibits development (Mauro, 1995; Méon and Sekkat, 2005; Mo, 2001; Shleifer and Vishny, 1993).<sup>15</sup>

Moreover, in order to identify differences in regional-level institutions, I specifically consider the following two variables:

1. Trust in courts (at the lowest level, courts are organized for a district or a county, which typically encompasses multiple communes or cities)<sup>16</sup>
2. Wait times for a car registration or a driver's license, which is an administrative task that is conducted for multiple administrative subunits by a regional institution responsible for the county (*Judet*)

More detailed information on the dependent variables is included in the appendix (subsection 6.3.4).

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<sup>15</sup>Also, Treisman (2000) considers historical colonial rule a factor impacting contemporary corruption levels.

<sup>16</sup>I chose 'trust in courts' as the main variable for regional-level institutions in part because a prominent contribution on Habsburg legacies by Becker et al. (2016) has used it as a primary variable as well.

### 4.3.1 The Quasi-Randomness of the Habsburg Border

For a geographic RDD, the condition of quasi-randomness in border placement is crucial. I argue that the border placement primarily reflected military considerations and was not motivated by social, economic, or institutional characteristics of the separated areas. This means that, while there were some military-strategic and military-opportunistic aspects to their positioning, from the perspective of an investigation centered on *social organization*, the borders were placed quasi-randomly.

When the border between territories ruled by Austria on the one side and Moldavia and Wallachia on the other side was drawn in the 18th century, the entire Balkan region had been at the center of military rivalries for centuries. The siege of Vienna in 1683 had shown the Habsburgs once again that the Ottomans posed a major threat (Hochedlinger, 2003, 156-157). Because Ottoman rule over Transylvania meant a security risk to the Habsburgs, its occupation had military motivations (Ingrao, 2000, 65-67; Judson, 2016, 42; Veres, 2014, 5).

Furthermore, the occupation of Wallachia and Moldavia was not prevented by their social, economic, or political characteristics but rather by military considerations. In fact, in the 1770s, Prince of Kaunitz-Rietberg—the Habsburg State Chancellor—advocated occupying both regions in addition to Bucovina. However, for strategic reasons, Joseph II favored gaining access to the Adriatic Sea through the occupation of Bosnia (Hochedlinger, 2003, 356). Accordingly, military considerations and the overall military strength of other great powers (specifically the Ottoman Empire)—not the inherent social, economic, or political characteristics of those regions—prevented their occupation (Hochedlinger, 2003, 356-361).

The final borders of the Austrian Empire were not only shaped by strategic military thinking but also by sheer military opportunism, further supporting the claim

of quasi-randomness. When the Russo-Turkish War (1768-74) distracted the two other great powers in the region, Austria acquired as much additional territory as possible (Hochedlinger, 2003, 351-363; Judson, 2016, 72; Veres, 2014). During this period, uncertainty about the exact position of previous administrative boundaries allowed for opportunistic border shifts (Veres, 2014). While the other great powers viewed Vienna's actions as highly aggressive, the Habsburgs themselves saw them as primarily defensive (Hochedlinger, 2003, 363). Regardless of which interpretation is more accurate, military considerations were key.

Above I have provided arguments for the view that military developments were the primary rationale for the border placement, indicating that social, political, or economic reasons were not decisive. Are there any data supporting the notion that pre-treatment characteristics in social organization were not diverging significantly? Indeed, several sets of analysis support this statement. Becker et al. (2016) conduct a large number of tests to verify the quasi-randomness of the Habsburg borders. Specifically, they test for variations in "medieval city size, access to medieval trade routes and presence of a medieval diocesan town" (Becker et al., 2016, 42). They do not find systematic variation in those characteristics or in altitude across the imperial borders. Additionally, in the appendix (subsection 6.3.5), I use a subset of these data that only includes towns in Romania to compare pre-treatment characteristics. I also show that the vast majority of covariates is balanced across the Habsburg border (subsection 6.3.9). And, in the empirical test, I test regression specifications that account for all covariates, including those that are not balanced. Moreover, I implement matching to address this issue and other potential problems with an RD analysis. Finally, Levkin (2015) tests whether there are any jumps in geophysical characteristics at the historical border and finds that the only feature with a significant difference is latitude.



There are some aspects of social organization for which I do not have reliable pre-treatment data. This includes data on ethnic heterogeneity and religious tolerance. Since I do not have data for these characteristics, my study may have a potential weakness. Considering the historical analyses in favor of a primarily military rationale of the border placement, there are nevertheless strong arguments for the validity of a geographic RDD.

To summarize, military considerations were the primary reason for the placement of the imperial borders. Social, economic, and political characteristics of the separated areas were not decisive for the integration into the Habsburg Empire. In fact, the occupation of Wallachia and Moldavia was considered by the Habsburgs but not realized for military reasons. Thus, for the purpose of a research design that is focused on aspects of social organization, we find strong support for the claim of quasi-randomness. These claims are further supported by a number of empirical analyses.

### **4.3.2 Empirical Techniques and Properties of the Regressions**

To test if there are any long-term legacies of the Habsburg Empire, and if those legacies differ between the regional and local levels, I make use of several empirical techniques. Each of these techniques has potential individual shortcomings, which means that we would ideally obtain results that are consistent across several different regression formats. I begin with a simple dummy variable framework. Then, I proceed to use a regression discontinuity design with distance to the border as the forcing variable. To address potential weaknesses of an RD analysis, especially spillover effects at the historical borders, I include a third alternative: matching based on covariates.

Below, I elaborate on these methods and their respective empirical specifications.

**Simple Dummy Variable Comparison:** Before I conduct a geographic regression discontinuity analysis, I use a simple dummy variable framework with the following properties:

$$y_i = \beta_0 + \beta_1 \text{Habsburg Empire}_i + \varepsilon \quad (4.1)$$

$y_i$  is the dependent variable at the level of the individual respondent  $i$ .  $\beta_1$  represents the difference between respondents in the formerly independent parts of Romania and respondents from the formerly Austro-Hungarian parts.

In the appendix, I also show the results of a simple dummy variable analysis that includes covariates. In this case, the regression has the following format:

$$y_i = \beta_0 + \beta_1 \text{Habsburg Empire}_i + \mathbf{x}'_i \boldsymbol{\beta} + \varepsilon \quad (4.2)$$

In the above specification,  $\mathbf{x}'$  represents a vector of covariates and  $\boldsymbol{\beta}$  represents vectors of the respective coefficients.

**Geographic Regression Discontinuity Analysis:** Additionally, I implement a geographic RDD (Keele and Titiunik, 2015), using distance to the border as the forcing variable:

$$y_i = \beta_0 + \beta_1 \text{Habsburg Empire}_i + \mathbf{x}'_i \boldsymbol{\beta} + f(\text{geographic location}) + \varepsilon \quad (4.3)$$

$y_i$  is the dependent variable.  $\beta_1$  represents the difference between answers by respondents from the two historically distinct parts of Romania.  $\mathbf{x}'$  represents a vector of covariates and  $\boldsymbol{\beta}$  represents a vector of the respective coefficients.  $f(\text{geographic location})$  is one of three functions of the geographic location described below.



**Distance to Border:** The first function represents the air distance to the historical border:

$$f(\text{geographic location}) = \gamma_1 \text{ distance to border}_i + \gamma_2 \text{ distance to border}_i * \text{Habsburg Empire}_i \quad (4.4)$$

In this format, distance is measured as the shortest absolute distance in kilometers to the historical imperial border. In each comparison, distance values are negative for respondents located in the parts that formerly belonged to Austria-Hungary and positive for respondents located in the parts that formerly belonged to independent Romania. Coefficients are represented by  $\gamma$ .

**Latitude/Longitude:** In addition to measuring the distance to the border, I use another specification, including controls for latitude and longitude and an interaction of the two:

$$f(\text{geographic location}) = \gamma_1 x + \gamma_2 y + \gamma_3 xy + \gamma_4 \text{ distance to border}_i + \gamma_5 \text{ distance to border}_i * \text{Habsburg Empire}_i \quad (4.5)$$

In this framework and in the one below,  $x$  represents a respondent's latitude and  $y$  represents a respondent's longitude. Coefficients are again represented by  $\gamma$ .

**Latitude/Longitude Polynomials:** Moreover, following Dell (2010), I also use a function where the geographic location is a function of latitude, longitude, as well as interactions and polynomials of those variables:

$$f(\text{geographic location}) = \gamma_1 x + \gamma_2 y + \gamma_3 x^2 + \gamma_4 y^2 + \gamma_5 xy + \gamma_6 x^2 y + \gamma_7 xy^2 + \gamma_8 x^3 + \gamma_9 y^3 + \gamma_{10} \text{ distance to border}_i + \gamma_{11} \text{ distance to border}_i * \text{Habsburg Empire}_i \quad (4.6)$$

**Matching:** Although I have previously shown in much detail that we can treat the historical Habsburg border as quasi-random (subsection 4.3.1), a very strong assumption is built into RD designs: That no spillover effects occurred at the historical boundaries in the time period after the unification of Romania.<sup>17</sup> Spillovers after the unification of Romania could lead to convergence in administrative organization close to the imperial borders, which would violate the stable unit treatment value assumption (SUTVA)—a major problem for an RD analysis.<sup>18</sup>

For these reasons, like in the third chapter, I again implement an alternative technique to an RD approach, namely genetic matching (Diamond and Sekhon, 2013). Genetic matching automatically creates two groups of observations that have a comparable distribution of covariates, i.e. covariate balance. By doing so, it effectively addresses the possibility of between-group imbalances in secondary characteristics (as reflected by the covariates).<sup>19</sup> In contrast to a RDD, matching generally does not rely as strongly on observations in the immediate vicinity of the historical borders, making it less sensitive to spillover effects in this narrow geographic area.

### 4.3.3 Covariates

I also include a number of potentially relevant covariates. Importantly, I need to ensure that the findings are not simply driven by distinctions between urban and rural areas since I am primarily interested in effects along the administrative hierarchy.

I generally distinguish between local context variables (i.e., variables that primarily reflect local contextual factors) and respondent characteristics (i.e., variables that

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<sup>17</sup>In the section regarding the mechanisms of path dependence (subsection 4.2.5), I elaborate in more detail on several factors (such as culture) that could be affected by cross-border spillovers.

<sup>18</sup>Some patterns observed in the results section (section 4.4) and in the appendix (subsection 6.3.10) indicate the possibility of such convergence close to the historical borders.

<sup>19</sup>For some results that indicate the existence of such imbalance, see the appendix (subsection 6.3.9).

primarily reflect personal characteristics of the respondent).

Unfortunately, to the best of my knowledge, data on public finances or funding in Romania at the local level are not available. However, even if some areas are richer or poorer, it would not explain inconsistencies between local and regional institutions, which is the central object of inquiry here.

The inclusion of covariates may lead to post-treatment bias. For this reason, I strongly prefer models that do not include covariates.

### Local Context Covariates

**Location Type:** The baseline will be *cities* and I introduce a dummy for *communes* (more rural locations) and for *municipalities* (more densely populated and larger than cities). Such distinctions are important because empires may seek to control more urbanized areas (cf. Acemoglu, Johnson and Robinson, 2002), and they may have incentives to treat rural areas differently (cf. Boone, 2003). Thus, I include this covariate to ensure that the findings are genuinely driven by differences in *administrative hierarchies*.

**Female Mayor:** Parts of the existing literature on corruption imply that a greater influence or proportion of female politicians reduces corruption levels (Dollar, Fisman and Gatti, 2001; Swamy, Knack, Lee and Azfar, 2001).<sup>20</sup> Thus, I control for the gender of the mayor.

**Same Party Continuously in Government:** If the same party is continuously successful in elections, this indicates lower levels of electoral competition. When electoral competition is low, opportunities for corrupt behavior or fiscal irresponsi-

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<sup>20</sup>Recent contributions claim that this relationship is conditional (Esarey and Schwindt-Bayer, 2018).

bility by local officials may increase (Kitschelt and Wilkinson, 2007; Prichard, 2018). Accordingly, I control for the perceived persistent electoral success of a single party.

**Capital:** The administrative organization of the Romanian capital city Bucharest is slightly different because it consists of sectors that each have their own mayor and council. Therefore, I include an additional control.

### **Respondent Characteristics Covariates**

**Years of Residence:** The number of years someone has lived at a certain location could increase exposure to the public administration, including corrupt acts.

**Respondent Age:** Older people might perceive public institutions differently than younger people.

**Public Administration Work Experience:** Work experience in the public administration could bias respondents' view on their employer.

**Income Level:** I distinguish between several household income levels because wealth could affect perceptions of public administrations.

**Female:** There may be differences in terms of exposure or perception of public institutions between male and female respondents.

### **4.3.4 Descriptive Summary Statistics**

Table 4.3.4 shows descriptive statistics for all variables. Furthermore, in the appendix (subsection 6.3.9), I provide a covariate balance table.

**Table 4.2:** Descriptive Statistics: Empirical Analysis of Chapter Four

Variable	n	Min	q <sub>1</sub>	$\bar{x}$	$\tilde{x}$	q <sub>3</sub>	Max	IQR
Corruption Levels	805	-3	-1	0.26	1	1	3	2
Wait Time ID	960	0	0	1.12	1	2	6	2
Trust in Courts	797	-3	-1	0.71	1	2	3	3
Wait Time Car	671	0	1	2.77	2	4	6	3
Trust in Local PA	997	-3	0	0.93	1	2	3	2
Efficiency of Local PA	956	-2	0	0.75	1	1	3	1
Austria	1001	0	0	0.41	0	1	1	1
Commune	1001	0	0	0.49	0	1	1	1
City	1001	0	0	0.17	0	0	1	0
Municipality	1001	0	0	0.34	0	1	1	1
Female Mayor	994	0	0	0.09	0	0	1	0
Same Party Success	860	0	0	0.64	1	1	1	1
Years of Residence	984	1	25	38.38	38	50	86	25
Age	997	18	35	48.67	49	62	89	27
Work Experience in PA	970	0	0	0.04	0	0	1	0
Education	991	0	0	1.46	2	2	4	2
Income	893	0	2	2.61	3	3	7	1
Female	1001	0	0	0.51	1	1	1	1
Capital	1001	0	0	0.04	0	0	1	0

## 4.4 Empirical Test: Results

### 4.4.1 Initial Analysis: Simple Dummy Variables (at Optimal Bandwidths)

I begin the empirical analysis with simple dummy regressions (Equation 4.1). According to my historical analysis (section 4.2), the Habsburg Empire implemented its institutions—which were closer to the modern state than previous rule through the landed elites—more effectively at the regional level. Because informational asymmetries were not as significant at the regional level, there was less space for resistance, leading to fewer tensions with the population. Thus, I expect that there are positive legacies with respect to the perception and performance of *regional* institutions. As shown in regressions 1 and 2 in Table 4.3, when using the simple dummy framework, my expectation is confirmed at the regional level. Regional institutions enjoy higher levels of trust (the court system) and have significantly lower wait times for car reg-



However, since I do not yet include measurements for distance to the border or other geographic factors, these results can only be seen as preliminary. A more rigorous geographic analysis of the first two variables follows. Furthermore, in line with my expectations, the results of a geographic analysis for the third and fourth variable generally show no statistically significant differences and are included in the appendix (subsection 6.3.11 and subsection 6.3.12). In short, while legacies are positive at the regional level, they are either negative or statistically insignificant at the local level.<sup>22</sup>

**Table 4.4:** Local Institutions (Simple Dummy Variables) (at Optimal Bandwidths)

	<i>Dependent variable:</i>			
	Corruption	Wait Time (ID)	Trust in Loc. PA Local Institutions	Efficiency of Loc. PA
	(1)	(2)	(3)	(4)
Habsburg Empire	0.423*** (0.129)	0.050 (0.083)	-0.084 (0.101)	-0.079 (0.071)
Constant	0.064 (0.083)	1.078*** (0.054)	0.945*** (0.065)	0.771*** (0.046)
Observations	745	905	957	936
R <sup>2</sup>	0.014	0.0004	0.001	0.001
Adjusted R <sup>2</sup>	0.013	-0.001	-0.0003	0.0003

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

#### 4.4.2 Geographic Analysis: Local State Institutions

Next, I move on to a geographic analysis: Distance to the border is my forcing variable in a regression discontinuity design. I begin with an analysis of local state institutions and then consider regional institutions.

I also control for geographic location (Equation 4.3), using multiple different measurements (Equation 4.4, Equation 4.5, and Equation 4.6). The results indicate that

<sup>22</sup>Furthermore, in the appendix, I provide the results of this analysis with the conservative approach of Holm-corrected p-values (subsection 6.3.6).

local-level institutions that are in the formerly Habsburg parts are perceived either negatively or there are no statistically significant differences. As shown below, local public administrations are perceived as more corrupt, and the wait times for IDs are higher. Furthermore, as I show in the appendix (subsection 6.3.11 and subsection 6.3.12), in the formerly Habsburg parts, local public administrations are not seen as more efficient and people do not have higher trust in them. In the appendix (subsection 6.3.10), I provide additional analyses, including density and sensitivity tests.

Table 4.5 shows the results for perceptions of corruption for different specifications.



**Table 4.5:** Full Sample Comparison: Corruption Levels (Local)

	<i>Dependent variable:</i>								
	Simple Distance			Corruption Levels (Local) Lat./Long.			Lat./Long. Polyn.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Habsburg Empire	0.606*** (0.197)	0.653*** (0.200)	0.540** (0.230)	0.599*** (0.198)	0.632*** (0.201)	0.506** (0.230)	0.546** (0.248)	0.567** (0.249)	0.483* (0.282)
Commune		0.292* (0.173)	0.339* (0.200)		0.228 (0.169)	0.309 (0.196)		0.184 (0.177)	0.282 (0.203)
Municipality		0.401** (0.184)	0.422* (0.225)		0.299* (0.180)	0.418* (0.221)		0.231 (0.194)	0.312 (0.235)
Female Mayor			-0.115 (0.337)			-0.465 (0.338)			-0.362 (0.348)
Same Party			-0.512*** (0.151)			-0.422*** (0.150)			-0.503*** (0.152)
Residence Years			-0.013*** (0.005)			-0.014*** (0.005)			-0.014*** (0.005)
Age			-0.0004 (0.006)			0.001 (0.006)			0.0001 (0.006)
PA Work Exper.			-1.616*** (0.399)			-1.508*** (0.392)			-1.593*** (0.394)
Educ. Level			-0.058 (0.071)			-0.084 (0.070)			-0.065 (0.070)
Income Level			0.044 (0.071)			0.047 (0.070)			0.053 (0.070)
Female			-0.013 (0.143)			0.011 (0.140)			-0.002 (0.139)
Capital			0.0002 (0.558)			0.465 (0.553)			0.379 (0.579)
Dist.	0.003** (0.002)	0.003* (0.002)	0.004* (0.002)	0.008*** (0.002)	0.007*** (0.002)	0.009*** (0.003)	-0.006 (0.006)	-0.005 (0.006)	-0.009 (0.007)
Dist. * Habsburg Emp.	-0.003 (0.002)	-0.001 (0.003)	-0.003 (0.003)	0.005 (0.004)	0.006 (0.004)	0.008 (0.005)	0.022*** (0.008)	0.021*** (0.008)	0.031*** (0.009)
Constant	-0.102 (0.137)	-0.363* (0.196)	0.452 (0.424)	-336.729*** (90.919)	-336.480*** (90.873)	-388.653*** (110.379)	7,254.758 (8,008.634)	6,229.795 (8,057.846)	9,899.146 (9,238.099)
Observations	805	805	600	805	805	600	805	805	600
R <sup>2</sup>	0.014	0.020	0.085	0.066	0.069	0.130	0.078	0.080	0.154
Adjusted R <sup>2</sup>	0.010	0.014	0.063	0.059	0.060	0.104	0.064	0.064	0.120

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Figure 4.5 and Figure 4.6 show the distribution of cases around the discontinuity graphically. Like all further figures of this kind, they also includes 95%-confidence intervals, based on the regressions without covariates. Respondents from territories that historically belonged to the Habsburg Empire are on the left, while other respondents are on the right. I observe a decrease in perceived corruption when moving from the formerly Habsburg parts to the formerly Romanian parts. Interestingly, this accords with historical perceptions of discriminatory practices by the local public administrations and greater tensions with the citizens of Transylvania.

Further graphs using a quadratic regression are included in the appendix (subsection 6.3.10). When compared to graphs based on linear models, these additional graphs using a quadratic regression indicate the possibility of convergence in bureaucratic organization in the immediate vicinity of the historical border. This pattern could be caused by spillover effects, meaning a potential violation of SUTVA. I discuss this issue and an option for addressing it below (subsection 4.4.4).

Figure 4.5: Comparison: Corruption Levels (Local)

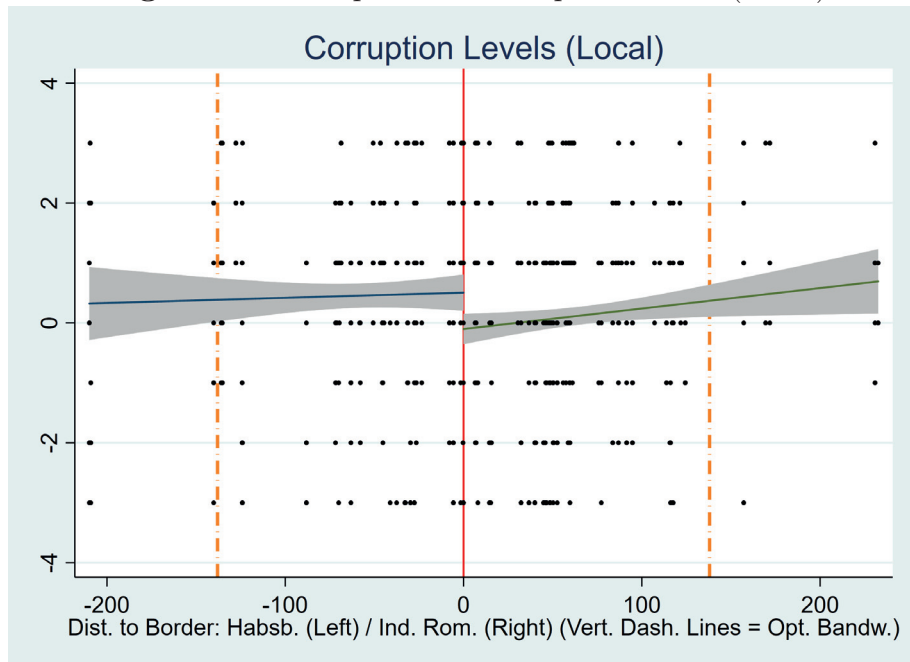
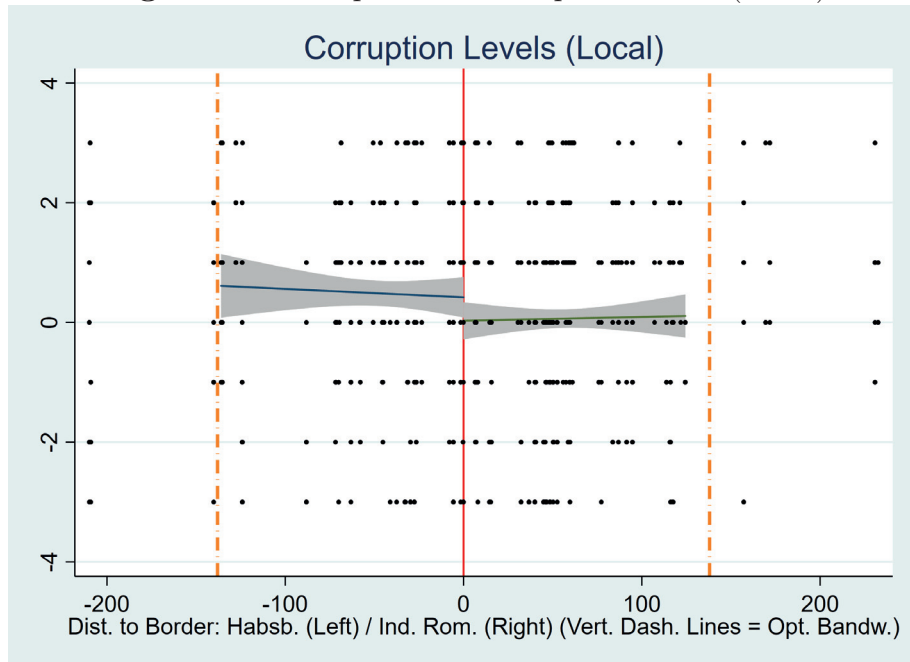


Figure 4.6: Comparison: Corruption Levels (Local)



In the following analysis, I use different border samples around the threshold. The dependent variable is unchanged. To identify the optimal bandwidth for the discontinuity analysis, I use an estimator by Imbens and Kalyanaraman (2012). I find an optimal bandwidth of 138 km and test four different bandwidths around this optimal one (Table 4.6). All regressions show results that are significant at  $\alpha < 0.1$  or better.

**Table 4.6:** Border Samples: Corruption Levels (Local)

	<i>Dependent variable:</i>				
	Corruption Levels (Local)				
	< 100 km (1)	< 125 km (2)	< 138 km (3)	< 150 km (4)	< 175 km (5)
Habsburg Empire	0.458*	0.574**	0.391*	0.417*	0.551**
	(0.277)	(0.242)	(0.231)	(0.229)	(0.220)
Dist.	0.001	0.001	0.001	0.001	0.003
	(0.004)	(0.003)	(0.003)	(0.003)	(0.002)
Dist. * Habsburg Emp.	-0.001	0.004	-0.002	-0.001	-0.004
	(0.006)	(0.004)	(0.004)	(0.004)	(0.003)
Constant	0.003	0.029	0.029	0.029	-0.106
	(0.197)	(0.168)	(0.168)	(0.168)	(0.154)
Observations	656	720	745	754	772
R <sup>2</sup>	0.013	0.012	0.015	0.014	0.014

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Next, I consider the wait times when applying for an ID—an administrative task conducted at the local level in the nearest municipality. I find that the long-term effect of Habsburg rule is negative. In the formerly Habsburg parts of Romania, there are significantly longer wait times.

Table 4.7 shows the details of the regressions, including multiple specifications. The results are not statistically significant in one specification, namely, the regressions with multiple polynomials. This means that these results are not as consistent across different specifications as the results for corruption levels.

**Table 4.7:** Full Sample Comparison: Wait Time ID (Local)

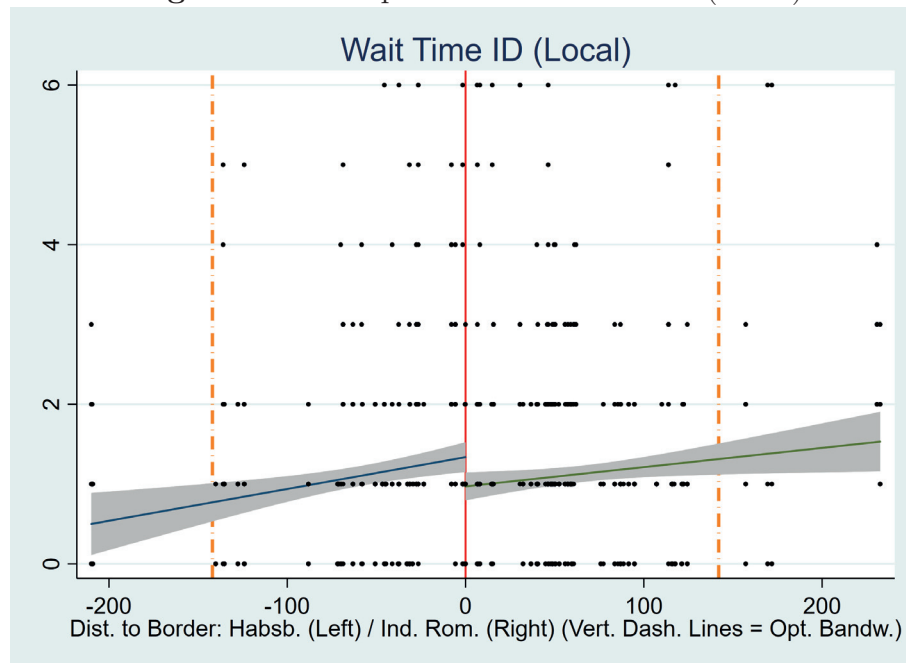
	<i>Dependent variable:</i>								
	Simple Distance			Wait Time ID (Local)		Lat./Long. Polyn.			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Habsburg Empire	0.366*** (0.130)	0.387*** (0.131)	0.457*** (0.157)	0.313** (0.131)	0.331** (0.132)	0.440*** (0.158)	0.061 (0.165)	0.068 (0.165)	0.134 (0.196)
Commune		0.179 (0.114)	0.140 (0.137)		0.181 (0.113)	0.157 (0.137)		0.198* (0.117)	0.178 (0.139)
Municipality		0.337*** (0.122)	0.446*** (0.155)		0.320*** (0.122)	0.478*** (0.154)		0.363*** (0.128)	0.550*** (0.160)
Female Mayor			-0.169 (0.252)			-0.347 (0.254)			-0.612** (0.254)
Same Party			-0.053 (0.103)			-0.058 (0.104)			0.003 (0.105)
Residence Years			-0.001 (0.003)			-0.001 (0.003)			-0.003 (0.003)
Age			-0.004 (0.004)			-0.004 (0.004)			-0.003 (0.004)
PA Work Exper.			-0.368 (0.252)			-0.286 (0.251)			-0.340 (0.248)
Educ. Level			-0.024 (0.049)			-0.032 (0.049)			-0.036 (0.048)
Income Level			0.031 (0.049)			0.023 (0.049)			0.024 (0.049)
Female			-0.130 (0.098)			-0.135 (0.097)			-0.133 (0.095)
Capital			-0.388 (0.389)			-0.266 (0.388)			0.069 (0.400)
Dist.	0.002** (0.001)	0.002 (0.001)	0.003* (0.001)	0.001 (0.002)	0.0002 (0.002)	0.002 (0.002)	-0.0003 (0.004)	0.0004 (0.004)	0.007 (0.005)
Dist. * Habsburg Emp.	0.002 (0.002)	0.003 (0.002)	0.002 (0.002)	0.009*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.013*** (0.005)	0.012** (0.005)	0.011* (0.006)
Constant	0.971*** (0.090)	0.799*** (0.129)	1.083*** (0.296)	-225.261*** (60.586)	-222.888*** (60.445)	-263.697*** (76.686)	24,010.260*** (5,431.920)	22,714.890*** (5,449.419)	26,273.730*** (6,305.953)
Observations	960	960	707	960	960	707	960	960	707
R <sup>2</sup>	0.016	0.024	0.045	0.039	0.046	0.067	0.065	0.073	0.110
Adjusted R <sup>2</sup>	0.013	0.019	0.025	0.033	0.038	0.044	0.053	0.059	0.080

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

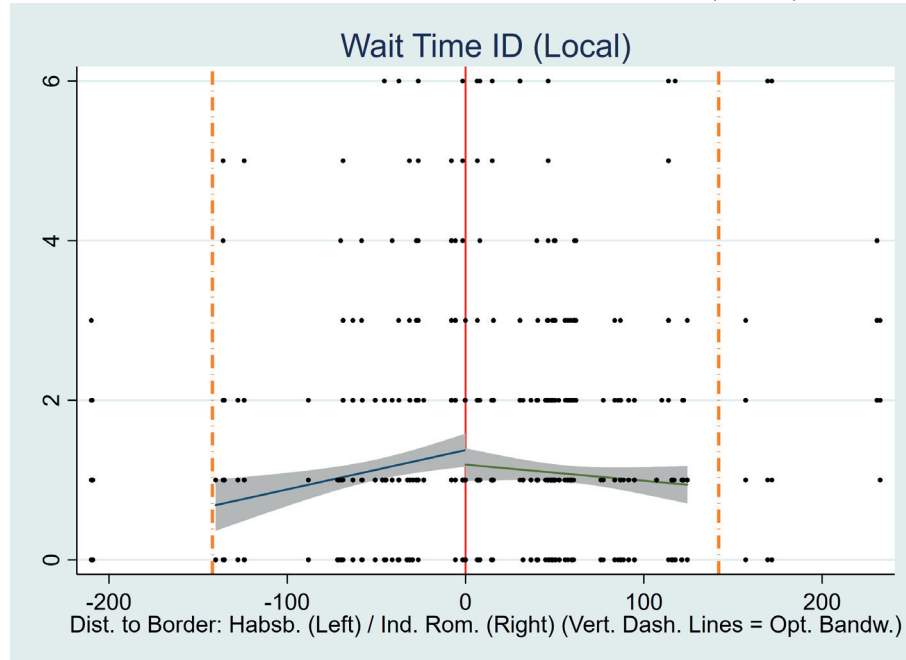
Figure 4.7 and Figure 4.8 show the discontinuity graphically. I observe an increase in the wait times when moving from the formerly Habsburg parts to the formerly Romanian parts.<sup>23</sup>

**Figure 4.7:** Comparison: Wait Time ID (Local)



<sup>23</sup>As with the other variables, additional graphs using a quadratic regression are included in the appendix (subsection 6.3.10).

Figure 4.8: Comparison: Wait Time ID (Local)



Regarding the variable that measures waiting times for an ID, I obtain an optimal bandwidth of approximately 142 km. In addition to a test at this bandwidth, I also test different bandwidths around the optimal one (Table 4.8). While the Habsburg effect is consistently positive, it is not statistically significant at three bandwidth sizes. Accordingly, the results for wait times for an ID are less strong and less consistent across specifications and samples than the results for corruption.

Furthermore, in line with my expectations, the results of a geographic analysis for the third and fourth variable generally show no statistically significant differences and are included in the appendix (subsection 6.3.11 and subsection 6.3.12).

**Table 4.8:** Border Samples: Wait Times ID (Local)

	<i>Dependent variable:</i>			
	Wait Times ID			
	< 125 km	< 142 km	< 150 km	< 175 km
	(1)	(2)	(3)	(4)
Habsburg Empire	0.218 (0.157)	0.182 (0.147)	0.182 (0.147)	0.247* (0.144)
Dist.	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.001 (0.001)
Dist. * Habsburg Emp.	0.008*** (0.003)	0.007*** (0.002)	0.007*** (0.002)	0.006*** (0.002)
Constant	1.193*** (0.107)	1.193*** (0.107)	1.193*** (0.107)	1.128*** (0.101)
Observations	867	905	905	924
R <sup>2</sup>	0.011	0.012	0.012	0.010

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

#### 4.4.3 Geographic Analysis: Regional State Institutions

In this section, I take a closer look at regional-level institutions by including geographic controls (Equation 4.3). The forcing variable is again the distance to the historical border. As with local institutions, I use all three measurements of geographic location (Equation 4.4, Equation 4.5, and Equation 4.6).

I begin with an analysis of the trust in courts by Romanian citizens. Courts are primarily organized at the regional level of the district or county, encompassing multiple localities. My analysis indicates that, regardless of how I measure the geographic location and of which covariates I include, people in the formerly Habsburg parts of Romania have significantly higher trust in courts. The results (Table 4.9) are highly statistically significant in each specification and in accordance with my framework. In the appendix (subsection 6.3.10), I provide additional analyses, including density and sensitivity tests.



Table 4.9: Full Sample Comparison: Trust in Courts (Regional)

	<i>Dependent variable:</i>								
	Simple Distance			Trust in Courts (Regional) Lat./Long.			Lat./Long. Polyn.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Habsburg Empire	0.717*** (0.205)	0.637*** (0.207)	0.921*** (0.244)	0.799*** (0.210)	0.718*** (0.212)	0.919*** (0.249)	0.594** (0.267)	0.555** (0.267)	0.817** (0.320)
Commune		-0.437** (0.178)	-0.356* (0.209)		-0.478*** (0.178)	-0.376* (0.210)		-0.370** (0.184)	-0.339 (0.216)
Municipality		-0.474** (0.193)	-0.206 (0.242)		-0.530*** (0.194)	-0.243 (0.243)		-0.384* (0.205)	-0.250 (0.254)
Female Mayor			-0.249 (0.368)			-0.327 (0.376)			-0.096 (0.384)
Same Party			-0.287* (0.163)			-0.245 (0.165)			-0.285* (0.166)
Residence Years			0.002 (0.005)			0.002 (0.005)			0.003 (0.005)
Age			-0.002 (0.007)			-0.001 (0.007)			-0.001 (0.007)
PA Work Exper.			0.732** (0.353)			0.769** (0.355)			0.769** (0.354)
Educ. Level			-0.059 (0.077)			-0.072 (0.077)			-0.044 (0.077)
Income Level			-0.083 (0.078)			-0.065 (0.079)			-0.064 (0.079)
Female			0.009 (0.155)			0.003 (0.155)			-0.0003 (0.153)
Capital			0.544 (0.620)			0.692 (0.628)			0.893 (0.653)
Dist.	0.007*** (0.002)	0.008*** (0.002)	0.007*** (0.002)	0.011*** (0.002)	0.012*** (0.003)	0.011*** (0.003)	0.004 (0.007)	0.003 (0.007)	0.002 (0.008)
Dist. * Habsburg Emp.	-0.008*** (0.003)	-0.009*** (0.003)	-0.006* (0.003)	-0.012*** (0.004)	-0.013*** (0.004)	-0.004 (0.005)	-0.019** (0.008)	-0.017** (0.008)	-0.012 (0.010)
Constant	0.121 (0.139)	0.494** (0.200)	0.753 (0.466)	70.189 (95.459)	62.809 (95.154)	-95.391 (120.303)	-18,705.510** (8,720.962)	-16,415.620* (8,776.081)	-16,915.380* (10,233.380)
Observations	797	797	586	797	797	586	797	797	586
R <sup>2</sup>	0.028	0.037	0.053	0.036	0.046	0.059	0.072	0.077	0.089
Adjusted R <sup>2</sup>	0.024	0.031	0.030	0.028	0.037	0.031	0.057	0.060	0.052

Note: OLS

\* p&lt;0.1; \*\* p&lt;0.05; \*\*\* p&lt;0.01

In addition to the full sample regression, I create different subsets based on limited bandwidths around the historical border. I obtain an optimal bandwidth of 126 km and test bandwidths around this optimal one (Table 4.10). I find general support for the effect of Habsburg rule in these regressions, even though the coefficient of Habsburg rule is not statistically significant in one of them.

Figure 4.9 and Figure 4.10 show the discontinuity graphically. I observe a decrease in the level of trust in courts when moving from the formerly Habsburg parts to the formerly Romanian parts.<sup>24</sup>

**Table 4.10:** Border Samples: Trust in Courts (Regional)

	<i>Dependent variable:</i>			
	Trust in Courts			
	< 100 km (1)	< 126 km (2)	< 150 km (3)	< 175 km (4)
Habsburg Empire	0.386 (0.278)	0.452* (0.251)	0.722*** (0.238)	0.661*** (0.229)
Dist.	0.013*** (0.004)	0.008*** (0.003)	0.008*** (0.003)	0.007*** (0.002)
Austria * Dist.	-0.030*** (0.006)	-0.018*** (0.005)	-0.010** (0.004)	-0.008** (0.003)
Constant	-0.096 (0.197)	0.080 (0.170)	0.080 (0.172)	0.141 (0.159)
Observations	656	719	750	765
R <sup>2</sup>	0.056	0.034	0.022	0.020

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

<sup>24</sup>As with the other variables, additional graphs using a quadratic regression are included in the appendix (subsection 6.3.10).

Figure 4.9: Comparison: Trust in Courts (Regional)

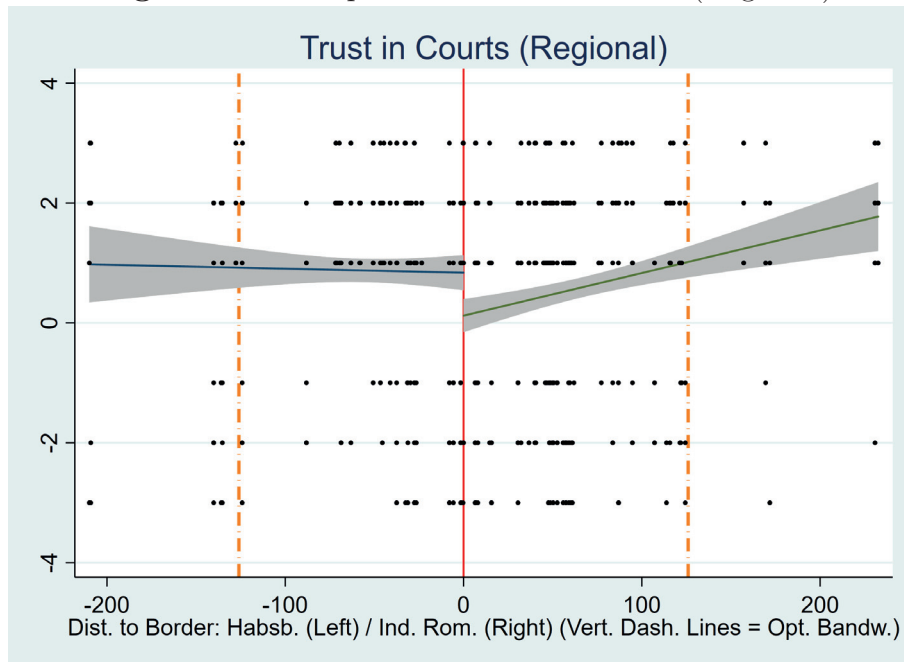
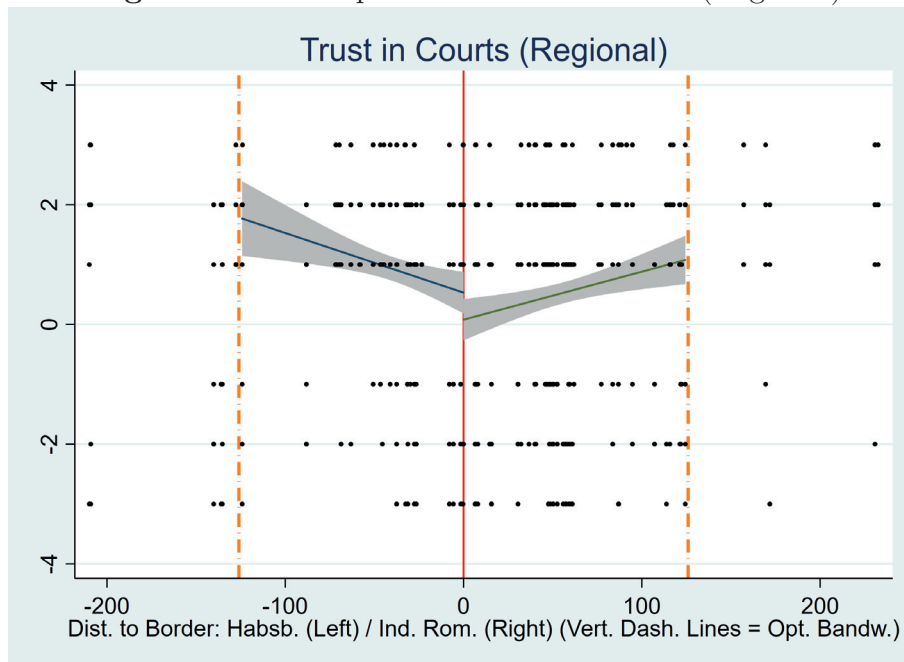


Figure 4.10: Comparison: Trust in Courts (Regional)



I also consider wait times for car registrations and driver's licenses. Here I find that the effect of Habsburg rule is positive as well. In the formerly Habsburg parts of Romania, there are lower wait times. Table 4.11 shows the results of my regressions. Even though the results are not significant in one type of geographic specification, I find partial support for my expectations.

Table 4.11: Full Sample Comparison: Wait Times Car Registration (County)

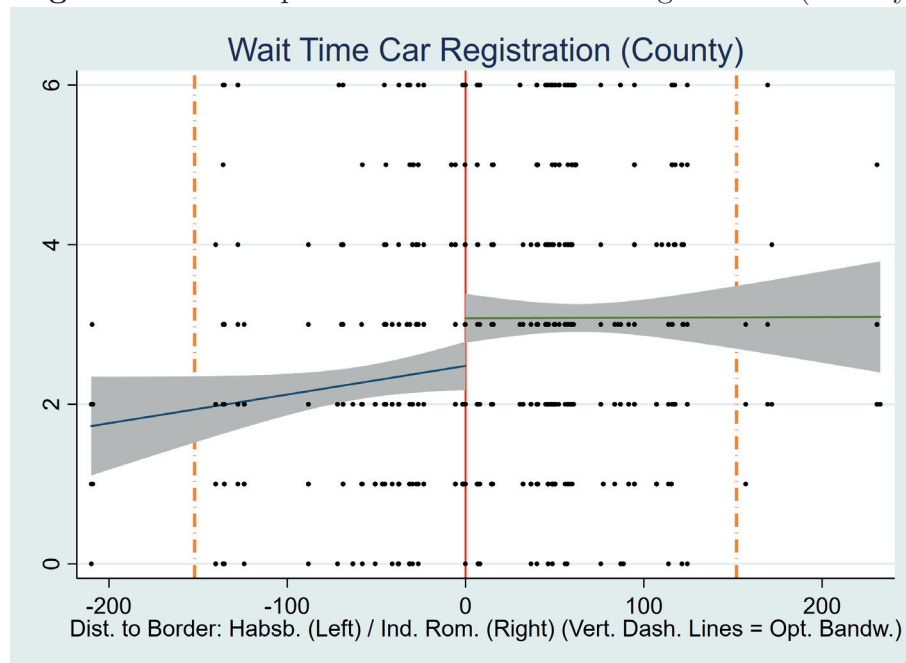
	<i>Dependent variable:</i>								
	Simple Distance			Wait Times Car Registration (County) Lat./Long.			Lat./Long. Polyn.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Habsburg Empire	-0.597*** (0.221)	-0.598*** (0.224)	-0.626** (0.259)	-0.633*** (0.222)	-0.630*** (0.224)	-0.551** (0.259)	-0.282 (0.271)	-0.284 (0.273)	-0.250 (0.316)
Commune		-0.0003 (0.194)	0.229 (0.221)		0.021 (0.191)	0.254 (0.220)		-0.018 (0.196)	0.238 (0.226)
Municipality		0.018 (0.208)	-0.020 (0.249)		0.017 (0.204)	0.062 (0.247)		-0.004 (0.215)	0.175 (0.260)
Female Mayor			-0.289 (0.374)			-0.550 (0.382)			-0.753** (0.381)
Same Party			-0.135 (0.162)			-0.150 (0.164)			-0.143 (0.163)
Residence Years			0.009 (0.006)			0.008 (0.006)			0.003 (0.006)
Age			-0.008 (0.007)			-0.008 (0.007)			-0.008 (0.007)
PA Work Exper.			-0.686* (0.365)			-0.565 (0.363)			-0.442 (0.358)
Educ. Level			-0.019 (0.078)			-0.036 (0.078)			-0.084 (0.077)
Income Level			-0.019 (0.074)			-0.048 (0.074)			-0.060 (0.073)
Female			0.220 (0.156)			0.211 (0.155)			0.215 (0.152)
Capital			0.960 (0.604)			1.085* (0.606)			0.634 (0.631)
Distance	0.0001 (0.002)	0.00001 (0.002)	-0.0004 (0.003)	-0.007** (0.003)	-0.007** (0.003)	-0.003 (0.003)	0.019*** (0.007)	0.019*** (0.007)	0.020*** (0.007)
Dist. * Habsburg Emp.	0.004 (0.003)	0.004 (0.003)	0.003 (0.004)	0.013*** (0.004)	0.013*** (0.004)	0.011** (0.005)	-0.017** (0.008)	-0.017** (0.009)	-0.013 (0.009)
Constant	3.078*** (0.151)	3.076*** (0.218)	3.120*** (0.459)	-273.974*** (100.654)	-274.833*** (101.112)	-270.051** (124.257)	-8,855.379 (8,874.360)	-8,813.523 (8,952.344)	-1,922.854 (9,970.238)
Observations	671	671	496	671	671	496	671	671	496
R <sup>2</sup>	0.054	0.054	0.094	0.094	0.094	0.119	0.145	0.145	0.171
Adjusted R <sup>2</sup>	0.049	0.046	0.068	0.086	0.083	0.088	0.129	0.127	0.131

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

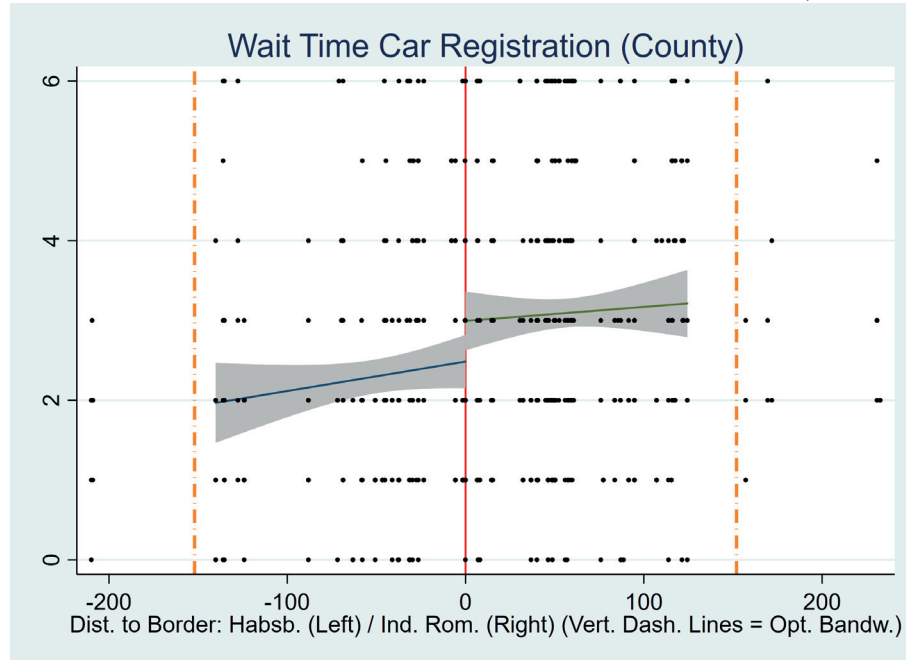
Figure 4.11 and Figure 4.12 show the discontinuity graphically. I observe an increase in the wait times for car registrations when moving from the formerly Habsburg parts to the formerly Romanian parts.<sup>25</sup>

**Figure 4.11:** Comparison: Wait Time Car Registration (County)



<sup>25</sup>As with the other variables, additional graphs using a quadratic regression are included in the appendix (subsection 6.3.10).

Figure 4.12: Comparison: Wait Time Car Registration (County)



Next, I again limit the sample to different bandwidths around the historical border. I obtain an optimal bandwidth of 152 km. I test different bandwidths around the optimal one (Table 4.12). Although I do not obtain significant results for one regression, the other regressions are highly significant.

**Table 4.12:** Border Samples: Wait Times Car Registration (County)

	<i>Dependent variable:</i>			
	Wait Times Car Registration			
	< 125 km	< 150 km	< 152 km	< 175 km
	(1)	(2)	(3)	(4)
Habsburg Empire	-0.368 (0.269)	-0.509** (0.254)	-0.509** (0.254)	-0.539** (0.247)
Dist.	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.001 (0.003)
Austria * Dist.	0.007 (0.005)	0.002 (0.004)	0.002 (0.004)	0.003 (0.004)
Constant	2.994*** (0.181)	2.994*** (0.182)	2.994*** (0.182)	3.024*** (0.172)
Observations	611	641	641	649
R <sup>2</sup>	0.053	0.050	0.050	0.049

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

#### 4.4.4 Matching

Similar to the third chapter, when moving from a linear to a quadratic regression format, we observe patterns of convergence in bureaucratic organization in the close vicinity of the historical Habsburg borders. Spillover effects in bureaucratic organization or the underlying socio-cultural factors may have occurred in the immediate environment of the historical border after the period of imperial rule. They could account for the observed patterns. In light of the fact that the borders were removed more than one hundred years ago, such spillover effects are a possibility and violate the important stable unit treatment value assumption.

A violation of SUTVA close to the historical borders is problematic for the application for an RD analysis and makes an additional empirical analysis imperative. Considering that I am facing a comparable issue as in the third chapter, I again rely on a similar response: matching. The key difference of matching vis-à-vis the RDD approach is that the latter relies much more strongly on the absence of spillover



effects at the historical border.

For the matching process, I rely on the same set of covariates that are utilized in previous regressions. Results of the analysis of matched data can be found in Table 4.13 for regional institutions and Table 4.14 for local institutions. They are broadly compatible with the results that were previously obtained. In particular, while I find a positive impact of Habsburg rule at the regional level (both in terms of higher trust in courts and lower wait times), there is a null effect at the local level (in terms of all local-level variables). Although these results slightly diverge from the regression discontinuity results presented above, which show a partial negative effect at the local level, my predictions also allowed for the possibility of a null effect with respect to local institutions. This means that the null results are still compatible with the theoretical framework. In general, I find additional evidence in favor of the theoretical framework.

**Table 4.13:** Genetic Matching: Regional Institutions

	<i>Dependent variable:</i>	
	Trust in Courts Regional/Non-Local Institutions	Wait Time (Car)
	(1)	(2)
Habsburg Empire	0.338* (0.199)	-0.778*** (0.197)
Constant	0.537*** (0.158)	2.965*** (0.155)
Observations	368	302
R <sup>2</sup>	0.008	0.049
Adjusted R <sup>2</sup>	0.005	0.046
Note: Gen. Match.	*p<0.1; **p<0.05; ***p<0.01	

**Table 4.14:** Genetic Matching: Local Institutions

	<i>Dependent variable:</i>			
	Corruption	Wait Time (ID)	Trust in Loc. PA Local Institutions	Efficiency of Loc. PA
	(1)	(2)	(3)	(4)
Habsburg Empire	0.147 (0.203)	-0.001 (0.135)	-0.115 (0.150)	-0.117 (0.108)
Constant	0.143 (0.164)	1.110*** (0.109)	1.037*** (0.120)	0.912*** (0.088)
Observations	378	441	458	434
R <sup>2</sup>	0.001	0.00000	0.001	0.003
Adjusted R <sup>2</sup>	-0.001	-0.002	-0.001	0.0004

Note: Gen. Match.

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 4.4.5 Summary

Overall, confirming my expectations about a differential effect of foreign rule, the results of the statistical analysis indicate that there is a positive Habsburg legacy at the regional level and a negative or non-existent legacy at the local level. Although there is some reason to believe that there were spillover effects in the close vicinity of the historical borders, I have applied matching in addition to the regression discontinuity analysis. This is an alternative empirical technique that is less dependent on the non-occurrence of spillovers in the immediate geographic environment of the historical borders than an RD analysis.

## 4.5 Summary and Conclusion

There are numerous articles that investigate imperial legacies in political institutions, legal systems, and public bureaucracies. Interestingly, those studies often present aggregate measures that disregard the levels of the administrative hierarchy. While they have yielded important results, the assumption that imperial rule has homogeneous effects across national, regional, and local state institutions can easily be called into

question. It may be responsible for a number of puzzling and inconsistent results in the literature.

In response to this lacuna, I develop a framework of imperial pervasiveness. I argue that resistance against foreign rule, in combination with financial and informational constraints on the imperial center, generally make the implementation of institutions at lower levels of the administrative hierarchy less effective. With respect to the Habsburg Empire, I hypothesize that its long-term legacies will be positive at the regional level and non-existent or negative at the local level. I apply this theory to the case of Romania and confirm my expectations empirically.

Accordingly, a few results in the literature may now be suspect. For instance, the finding by Grosfeld and Zhuravskaya (2015) that there are no significant legacies with respect to trust in government in Poland may be a result of differential trust in local, regional, and national institutions.<sup>26</sup> Similarly, with respect to the United States, we might need to analyze if findings by La Porta et al. (1997) hold when differentiating among number of legal traditions at the state level (Berkowitz and Clay, 2005).

Since my theory is primarily constructed around cases in which territory was directly incorporated into the core boundaries of an empire, future studies could extend (and potentially modify) my framework to the analysis of separate territorial entities. In this regard, the contributions by Lange (2004) and Mkandawire (2010) might be ideal points of departure because they offer interesting theoretical perspectives, but aggregate all data at the national level.

My results are also of general interest to scholars studying diverging trends along the administrative hierarchy—whether related to historical imperial rule or not. Existing studies already show that accountability mechanisms may have different im-

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<sup>26</sup>The empirical results presented in chapter 3 (section 3.6) indicate that imperial legacies also affect government institutions in Poland. Therefore, a new study on differential trust in local, regional, and national governments might uncover patterns in accordance with these findings.

pacts on central and local administrations (Hong, 2017). There are many further aspects of political-administrative institutions and behavior that could have diverging characteristics at the national, regional, and local levels, providing ample opportunities for additional research.<sup>27</sup>

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<sup>27</sup>For example, researchers could explore such distinctions in terms of the use and effectiveness of political violence (e.g., Christensen, Nguyen and Sexton, 2019; McNamee, 2018), the relationship between political organization and economic growth (e.g., Bizzarro, Gerring, Knutsen, Hicken, Bernhard, Skaaning, Coppedge and Lindberg, 2018), or opportunities for democratic participation and institutional development (e.g., Falleti and Riofrancos, 2018).

# Chapter 5

## Conclusion

### 5.1 Research Question and Principal Conclusions

Public bureaucracies have a significant impact on economic development (Evans, 1995; Evans and Rauch, 1999). Therefore, the organization and performance of civil service systems is at the heart of political economy. While there is convergence in terms of horizontal and vertical differentiation of bureaus, substantial variation remains in many other factors of administrative organization, including the meritocracy in recruitment, political control, and levels of efficiency. Considering the impact of civil service systems on both economic progress and the wellbeing of citizens (Vogler, 2019), it is interesting that there is such outstanding divergence in the organization of public bureaucracies across countries, across regions, and between the levels of the administrative hierarchy. Most suprisingly, wide-ranging differences can be observed even across OECD countries. Therefore, the main research question that motivated this dissertation was: How can we explain the substantial variation in the institutions of bureaucracies *across* and *within* countries?

Furthermore, given the general relevance of public administrations and the specific relevance of factors such as the competitiveness of recruitment (meritocracy) or political control, it is puzzling that the discipline of political economy has not yet investigated the historical determinants of those crucial factors of bureaucratic organization in detail. Importantly, we have no unified comparative account that considers the cross-national organization of both meritocracy in recruitment and political

control simultaneously. With respect to the literature on imperial legacies in public administration, there are several other weaknesses, such as non-random assignment into treatment and potentially high levels of unobserved heterogeneity. Additionally, the literature often aggregates data at the national level and does not account for systematic differences along the administrative hierarchy.

My dissertation is meant to fill these gaps in the existing literature. Based on the consistent findings that (1) bureaucracies are highly path-dependent and that (2) the 19th and early 20th centuries were a crucial period for the emergence of modern administrative organizations, I present a comprehensive account of how social groups and external rule were key factors in shaping nascent bureaucratic systems. In three chapters that include various and multi-faceted theoretical, historical, and empirical analyses, this dissertation investigates divergence in bureaucratic organization across countries, across regions, and along the levels of the administrative hierarchy.

My principal conclusion is that specific historical developments significantly shaped and still shape the organization of public administrations in several different settings. In the case of countries that enjoyed domestic political autonomy, socio-economic groups had decisive influence on early bureaucratic structures. In the case of countries under imperial rule, external influences were of greatest relevance. Empires sought to impose their own bureaucratic systems on ruled territories, but their effectiveness differed along the administrative hierarchy. As I demonstrate in all three substantive chapters, this early influence—manifested in the institutional design of public bureaucracies—has persisted until the present day.

How can we explain that bureaucratic organization is so stable over time? Four key mechanisms of inter-temporal persistence have been identified in chapter two. In some cases, such as Germany, there is significant path dependence in the formal institutions of the bureaucracy. Additionally, civil servants often form a strong inter-

est group that is averse to and fights fundamental changes. As the third and fourth chapters show, even in cases where these two mechanisms are not at work, persistence in (administrative) culture and the perceptions of public administrations can influence (self-)selection into public bureaucracies as well as the behavioral patterns of bureaucrats—factors that decisively (and continuously) shape the performance and organization of bureaucratic systems.

In the following sections of the conclusion, I review the key insights of the three main chapters of my dissertation. Each of them deals with a different phenomenon: The second chapter links the preferences of socio-economic interest groups to the design of public administrations in countries that historically enjoyed domestic political autonomy. The third chapter considers the influence of imperial powers in countries that were subject to foreign rule. The fourth chapter looks at financial and informational limitations of external rulers and how they might affect differences in the effectiveness of institutions along the administrative hierarchy.

## 5.2 Main Insights from Chapter Two

The second chapter deals with the impact that socio-economic groups have on the design of civil service systems. I find that three social groups—the traditional elites, the middle classes, and the urban working class—had diverging interests in the design of public bureaucracies. In multiple case studies, I show that their relative political influence was a key determinant of the institutional design of early civil service systems.

I also suggest different mechanisms of path dependence and discuss signs of intertemporal persistence in the case studies. Specifically, the organizational characteristics of bureaucracies might persist because of path dependence in formal institutions

or (administrative) culture. Furthermore, civil servants might act as a well-organized interest group that seeks to protect their employer from external influences. Finally, perceptions of the public administration could affect (self-)selection of employees, which likely shapes its competence and future performance, creating a self-reinforcing mechanism.

The most important contribution of the second chapter is that it fills crucial gaps in the existing comparative literature on public administration. First, by distinguishing between political control and meritocracy of recruitment, the chapter provides a new perspective on two key dimensions of bureaucratic organization. Second, by developing a broad theory that is applicable to a large number of cases, I go beyond previous single-country studies. Third, by explicitly analyzing the preferences of social groups, I provide a novel theoretical perspective on the emergence of bureaucratic systems. Finally, my case studies elaborate on the various mechanisms through which social groups have influenced nascent bureaucracies.

To summarize, a key insight that we have gained from chapter two is that the institutions of the modern bureaucracy were significantly influenced by socio-economic groups. The results of the chapter, in combination with the lessons from other studies, point to the substantial influence that social classes had on modern public institutions more generally. Accordingly, future investigations might consider the impact of these groups on education, health care, the military, transportation, and other aspects of the modern state.

### **5.3 Main Insights from Chapter Three**

Similarly to the second chapter, the third chapter also responds to a number of crucial issues related to the development of public administrations. Among the issues



directly addressed are: (1) substantial regional divergence in bureaucratic organization (even *within* countries), (2) potential differences in the long-term effects of centralized versus decentralized imperial rule, and (3) methodological weak spots of existing studies on colonial legacies in public administration. Specifically, previous studies typically measure bureaucratic legacies only indirectly and do not address the potential of non-random assignment into treatment and/or high levels of unobserved heterogeneity in the units of analysis.

My findings show that imperial rule has multi-faceted effects on bureaucratic organization, which I measure directly with indicators of administrative performance and meritocracy. Most importantly, these long-term effects are present even when there is no long-term legacy in *formal* institutions. Instead, informal institutions—such as culture, perceptions of bureaucracies, and social structures—can have a decisive and lasting impact on the design of public bureaucracies.

Cross-regional divergence in economic growth could be partially explained by variation in the quality and performance of public bureaucracies, because inefficiency in administrative organization, corruption, and patronage in recruitment can all hold back a country's economic development. These circumstances make my findings relevant to scholars who consider bureaucracies in developing countries and especially those who are interested in their impact on economic factors.

What are the main contributions of this chapter to the literature? First, I demonstrate that imperial rule has several long-term effects on bureaucratic institutions—which I measure directly rather than indirectly, something that few scholars have attempted previously. Furthermore, this chapter expands the large literature on the politics of bureaucracy in a new direction—toward the legacies of foreign rule. Third, my finding that decentralization can have positive long-term effects on the efficiency of bureaucracies speaks broadly to the literature on centralization versus decentral-

ization (Cai and Treisman, 2009; Pierskalla, Schultz and Wibbels, 2017; Weingast, 2014).

In the future, there is significant space to build upon the results of my study. Specifically, scholars may choose to investigate imperial legacies in different world regions. The French, Spanish, Dutch, British, Portuguese, and German empires ruled large parts of Africa, Latin America, Asia, and Oceania. In all of these regions, we might discover different types of imperial legacies. Cultural and social institutions could shape colonial and imperial legacies in different ways than they did in Europe. Furthermore, the strength of legacies could also differ widely between world regions, making future studies desirable.<sup>1</sup>

## 5.4 Main Insights from Chapter Four

The fourth chapter of my dissertation deals with potential differences in bureaucratic organization along the administrative hierarchy and directly speaks to a weak spot in the existing colonial-origins literature. Specifically, it is a common practice to aggregate data at the national level. As I show, this approach can lead to severe problems because the effect of imperial rule can diverge along the administrative hierarchy. Why would we expect this divergence? Many empires were subject to a combination of financial constraints and limitations of their information aggregation capabilities, which gave ruled peoples an advantage in resisting institutions at lower-level administrative institutions.

An application to the case of Habsburg rule in Romania confirms these expectations. I find that trust in courts (which exist at the county and higher regional

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<sup>1</sup>For an exploration of bureaucratic legacies in another world region, see, for example, Patapan, Wanna and Weller (2005). Also, the case of Latin America may be used to uncover interactions between past colonial rule *and* the influence of socio-economic groups, since both forces could have had a substantial impact on the bureaucratization process there.

levels), is significantly greater in the formerly Habsburg parts of Romania. Furthermore, wait times at regional-level bureaucratic institutions are significantly lower in most specifications, indicating an overall positive legacy of Habsburg rule. However, at the local level, I show that the legacy of the Habsburg Empire is either not significant or negative, with longer wait times and higher levels of corruption amongst others.

Findings from the third chapter on Poland regarding the relevance of informal institutions for bureaucratic organization, such as culture, perceptions, and social memory, are also confirmed in the fourth chapter on Romania. In present-day Romania, substantial differences can be identified in the regional culture of Transylvania. Such insights could also contribute to an explanation of differences in administrative institutions and performance across countries.

In general, these results indicate that we should comprehensively rethink the colonial-origins literature. Future studies can expand on the insights gained here and theorize as well as empirically investigate distinctions along the administrative hierarchy, especially in terms of resource investments, information flow, utilized human capital, and—more generally—effective imperial control. Potential future applications can consider both regions that were ruled by one empire and regions that were subjugated to multiple empires. The United States is an especially interesting case because of its legacies by at least three different imperial powers.<sup>2</sup>

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<sup>2</sup>See in particular the work by Berkowitz and Clay (2012). See also Elazar (1984, Ch. 5, esp. 122-125) for how different regional political cultures in the US might be the result of historical settlement patterns.

## 5.5 Limitations of This Dissertation and Opportunities for Future Research

This dissertation fills a number of gaps in the existing literature on comparative bureaucratic organization and colonial origins. However, there are many ways in which future contributions can build upon the research in this dissertation and improve our knowledge on the emergence of modern bureaucracies. In this section, I elaborate on the limitations of my research and how they can be the foundation for further research projects.

First, my theory of socio-economic groups and their interests with respect to bureaucratic organization represents a simplification of reality with the goal of general applicability. Given this intention, I cannot account for many country-specific deviations. For instance, in some countries, the middle classes may be more internally heterogeneous than in others. Or, as the US case shows, sometimes there are influential groups, such as independent small-scale farmers, that do not perfectly fit into the socio-economic categories that I have established. While I have to accept these potential weaknesses to achieve a higher level of generalizability, future studies could refine my theory and make it more flexible with respect to within-country heterogeneity in classes.

Future work could also refine two other aspects of the second chapter. For instance, class compromises are essential to hybrid bureaucratic systems, but we need to more comprehensively understand the political, social, and institutional circumstances under which such compromises become feasible. Exploring the influence of these different factors could lead to a major piece of research that would be of broad interest to the literature on coalition formation and comparative political systems. In addition, a comprehensive comparative account of the mechanisms of bureaucratic

path dependence would be a natural next step in the study of bureaucratic emergence and persistence.

In such a study, scholars could also investigate how international trends, such as the politicization of bureaucracies (Peters and Pierre, 2004), impact long-term patterns of path dependence in bureaucratic organization.<sup>3</sup> While criticism of my approach related to these long-term trends is valid, it is also important to point out that the cross-sectional variation in key characteristics of bureaucracies is so substantial that inter-temporal variation within countries is typically small in comparison.

In addition to incremental, longer international trends in bureaucratic organization, scholars could consider the impact of shorter events that had a more wide-ranging and comprehensive impact on social organization, especially the two World Wars.<sup>4</sup> While my case studies indicate that many aspects of bureaucratic organization have survived the major wars of the early 20th century, there could also be changes to and transformations in other aspects of administrative organization. Future studies could isolate and explore other institutional aspects of public administrations. For example, in a variety of occupations, women experienced steep increases in employment opportunities during the World Wars. This might also have affected public administrations in a large number of countries in the long term.

Additionally, as touched upon previously, upcoming studies should go beyond the case of Europe and investigate variation in bureaucratic performance in other world regions. It is crucial for the advancement of our knowledge to investigate Africa, Asia, the Americas, and the Pacific region. These areas of the world offer plenty of opportunities to study possible long-term effects of empires and colonizers on the

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<sup>3</sup>Existing studies already consider the transnational movement of ideas regarding the organization of bureaucracies as an important trend that could affect administrative institutions (Sager, Rosser, Mavrot and Hurni, 2018).

<sup>4</sup>For such an analysis of historical structural change, the theoretical contributions by Hernes (1976) and Braudel (1958) might be useful points of departure.

organization and performance of public administrations.

With respect to the two chapters on imperial rule, it is important to point out an additional limitation. Since my theory is primarily constructed around cases in which territory was directly incorporated into the core boundaries of an empire, my theoretical framework cannot speak to the analysis of separate territorial entities to the same extent. The dynamics of territorial-administrative rule might be entirely different in such cases, which might require alternative theoretical frameworks and empirical investigations.

Finally, the socio-cultural mechanisms of inter-temporal transmission that are refined in chapters three and four are another key area for additional future research. Improving upon my study, future work could integrate insights from different disciplines, including sociology and cultural anthropology, to study in greater detail the specific mechanisms of inter-temporal transmission that apply to these and other cases in greater detail. In general, the persistence of informal social institutions is a broad and promising area of study that could be the foundation for much additional work in the future.

Despite these limitations, my dissertation provides a comprehensive theoretical and empirical account that explains a substantial part of the variation in bureaucratic organization across countries, across regions, and between the levels of the administrative hierarchy. It shows that socio-economic groups and empires were the key forces behind the design of early administrative institutions. Their historical influence still shapes the institutions and the performance of public administrations in different world regions.

# Chapter 6

## Appendix

### 6.1 Appendix of Chapter Two

This appendix includes additional empirical evidence and further discussions of claims that were made in the second chapter. In subsection 6.1.1, I show that the results of the statistical analyses are robust when choosing different years for measuring the key explanatory variable. In subsection 6.1.2, I test the hypotheses that are related to the historical influence of the middle classes.

#### 6.1.1 Additional Empirical Analysis: the Years 1910-1925

Table 6.1 and Table 6.2 show that the results that I have obtained in section 2.5 are statistically significant for a large number of years. The table shows the coefficient and p-values of the elite consultation variable for different models (M1-M6) for all years between 1910 and 1925. While the years 1914-18 yield some results that are less statistically significant, World War One causes short-term changes in the relevant variables that reflect unique developments during the war years. Therefore, we can discount those outliers.

	Year	$\beta_1$ (M1)	$\beta_1$ (M2)	$\beta_1$ (M3)	$\beta_1$ (M4)	$\beta_1$ (M5)	$\beta_1$ (M6)	p (M1)	p (M2)	p (M3)	p (M4)	p (M5)	p (M6)
1	1910	-0.807	-0.783	-0.713	-0.803	-0.717	-0.684	0.000	0.000	0.000	0.001	0.002	0.000
2	1911	-0.795	-0.770	-0.700	-0.787	-0.699	-0.672	0.000	0.000	0.000	0.001	0.003	0.000
3	1912	-0.835	-0.811	-0.744	-0.838	-0.758	-0.713	0.000	0.000	0.000	0.000	0.001	0.000
4	1913	-0.835	-0.811	-0.745	-0.836	-0.766	-0.710	0.000	0.000	0.000	0.000	0.001	0.000
5	1914	-0.834	-0.799	-0.737	-0.842	-0.760	-0.714	0.000	0.000	0.000	0.000	0.001	0.000
6	1915	-0.763	-0.741	-0.663	-0.804	-0.719	-0.654	0.000	0.000	0.001	0.001	0.002	0.001
7	1916	-0.681	-0.691	-0.607	-0.744	-0.652	-0.604	0.001	0.001	0.003	0.003	0.008	0.003
8	1917	-0.675	-0.678	-0.595	-0.775	-0.652	-0.575	0.002	0.002	0.006	0.002	0.011	0.009
9	1918	-0.653	-0.658	-0.584	-0.868	-0.611	-0.575	0.001	0.001	0.006	0.000	0.005	0.009
10	1919	-0.667	-0.657	-0.614	-0.830	-0.614	-0.581	0.000	0.001	0.002	0.000	0.002	0.003
11	1920	-0.702	-0.696	-0.653	-0.804	-0.670	-0.609	0.000	0.000	0.000	0.001	0.000	0.001
12	1921	-0.707	-0.704	-0.662	-0.807	-0.683	-0.619	0.000	0.000	0.000	0.000	0.000	0.000
13	1922	-0.722	-0.717	-0.678	-0.835	-0.702	-0.637	0.000	0.000	0.000	0.000	0.000	0.000
14	1923	-0.668	-0.678	-0.626	-0.719	-0.644	-0.567	0.000	0.000	0.000	0.000	0.000	0.001
15	1924	-0.689	-0.704	-0.652	-0.745	-0.665	-0.569	0.000	0.000	0.000	0.000	0.000	0.000
16	1925	-0.630	-0.666	-0.604	-0.659	-0.603	-0.517	0.000	0.000	0.000	0.000	0.000	0.000

**Table 6.1:** Meritocracy and the Inverse of the Range of Consultation: Robustness Checks for the Years 1910-1925



	Year	$\beta_1$ (M1)	$\beta_1$ (M2)	$\beta_1$ (M3)	$\beta_1$ (M4)	$\beta_1$ (M5)	$\beta_1$ (M6)	p (M1)	p (M2)	p (M3)	p (M4)	p (M5)	p (M6)
1	1910	0.617	0.601	0.512	0.538	0.674	0.581	0.004	0.010	0.018	0.031	0.016	0.012
2	1911	0.604	0.587	0.499	0.519	0.654	0.567	0.005	0.011	0.021	0.037	0.019	0.014
3	1912	0.634	0.617	0.531	0.561	0.705	0.600	0.003	0.007	0.014	0.023	0.011	0.009
4	1913	0.616	0.598	0.515	0.538	0.709	0.584	0.004	0.009	0.016	0.029	0.012	0.012
5	1914	0.636	0.613	0.514	0.536	0.705	0.603	0.003	0.008	0.014	0.033	0.013	0.010
6	1915	0.592	0.573	0.468	0.498	0.656	0.558	0.007	0.015	0.029	0.045	0.018	0.018
7	1916	0.545	0.539	0.428	0.458	0.611	0.520	0.021	0.026	0.055	0.078	0.034	0.035
8	1917	0.512	0.519	0.381	0.491	0.570	0.463	0.033	0.031	0.097	0.060	0.049	0.070
9	1918	0.508	0.515	0.355	0.552	0.596	0.486	0.025	0.024	0.120	0.037	0.014	0.052
10	1919	0.561	0.552	0.437	0.524	0.630	0.562	0.007	0.009	0.039	0.036	0.006	0.011
11	1920	0.574	0.573	0.495	0.499	0.601	0.586	0.005	0.006	0.019	0.044	0.009	0.009
12	1921	0.585	0.582	0.514	0.511	0.610	0.594	0.004	0.004	0.011	0.035	0.008	0.006
13	1922	0.588	0.586	0.517	0.512	0.619	0.596	0.003	0.003	0.011	0.034	0.007	0.005
14	1923	0.459	0.455	0.395	0.420	0.472	0.423	0.021	0.023	0.047	0.054	0.036	0.045
15	1924	0.493	0.489	0.444	0.465	0.515	0.451	0.008	0.009	0.016	0.018	0.015	0.024
16	1925	0.451	0.455	0.423	0.415	0.456	0.414	0.008	0.009	0.011	0.019	0.018	0.025

**Table 6.2:** Political Control and the Inverse of the Range of Consultation: Robustness Checks for the Years 1910-1925

## 6.1.2 Additional Empirical Analysis: the Middle Class(es)

### Measuring Historical Middle-Class Influence

In this section, I test hypotheses 3 and 4 on the historical influence of the middle classes. Finding an independent variable poses a challenge as it needs to be highly correlated with historical middle-class influence.

The *historical level of property rights* is a good proxy for two reasons. First, the foremost economic policy goal of the middle classes was the strengthening of property rights, as a protection against attempts by either the traditional elites or the working class, or both, to increase taxes or expropriate middle class members. By measuring the extent to which they were able to achieve their goal, I capture both formal and informal influence. Second, high levels of property rights are also associated with greater economic security for the middle classes, further strengthening their position (Acemoglu and Robinson, 2005; Ansell and Samuels, 2014; Boix, 2003; Kocka, 1995; Savage, Barlow, Dickens and Fielding, 1995). These claims are summarized in Figure 6.1. A continuous measurement of historical property rights levels is provided by Coppedge et al. (2016).

An argument that may be put forward against this measurement is that strong market economies could lead to both high levels of property rights protection *and* high levels of meritocracy, a potentially complex form of endogeneity. This argument is valid but also fully compatible with the theory. Indeed, in strong market economies, we would expect a strong middle class and, as the case studies have shown, the middle classes were the *primary agents* for bureaucratic reform. Acknowledging the *importance of agency*, the middle classes must be seen as the driving force behind the institutionalization of meritocracy.

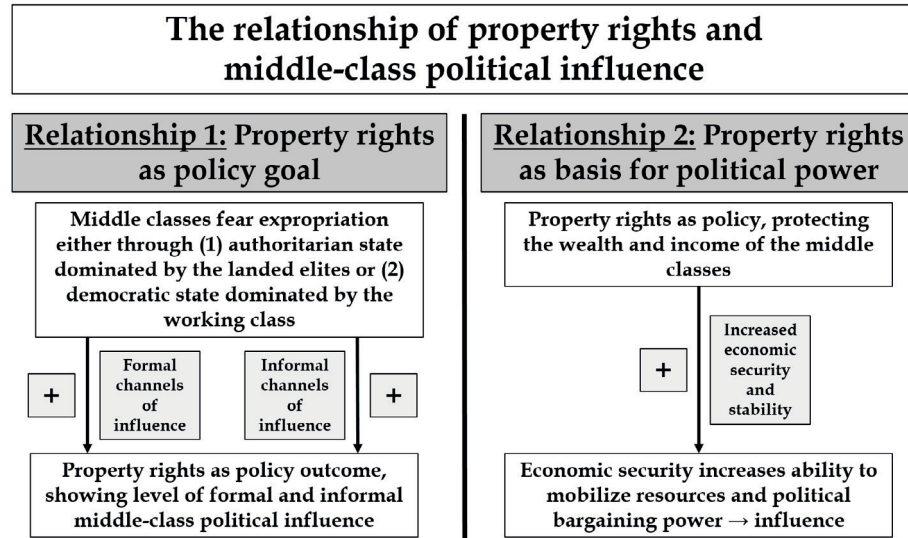
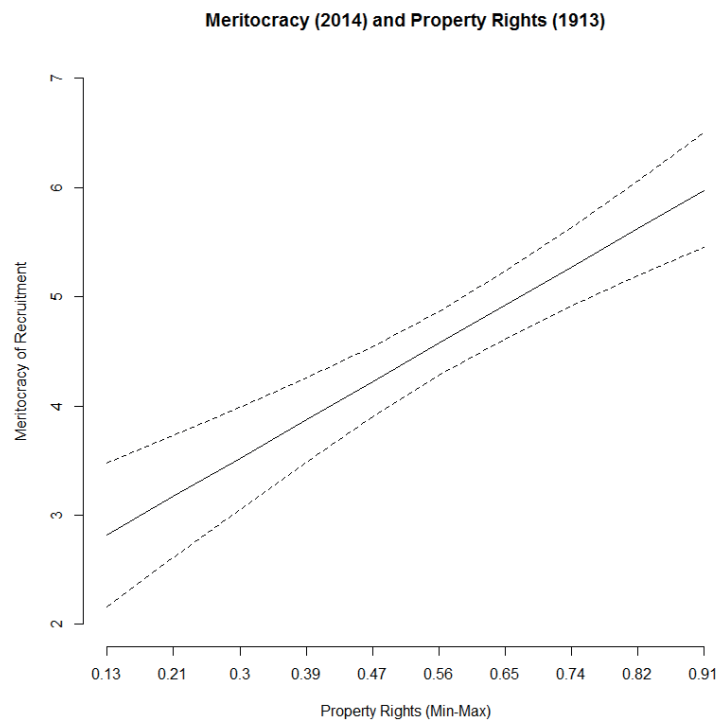


Figure 6.1: Property Rights and Middle-Class Political Influence

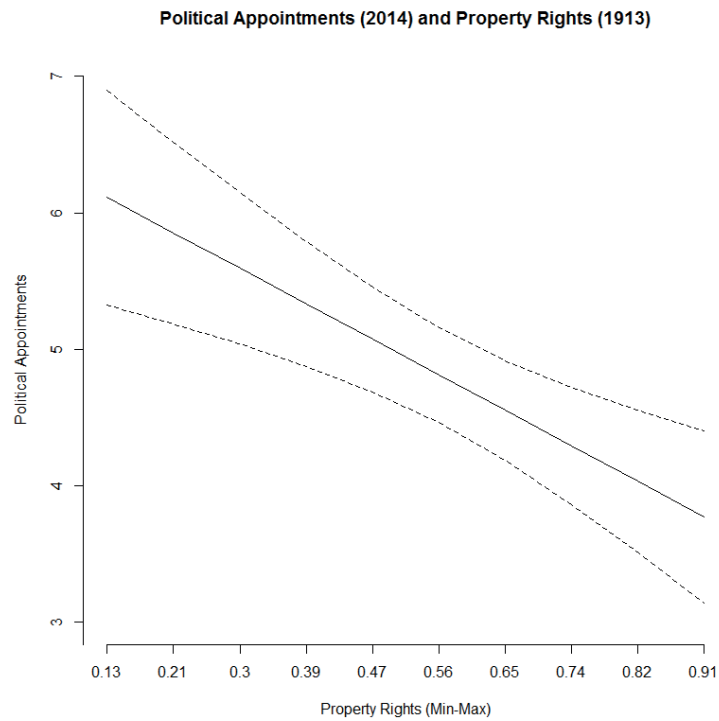
### Results of the Statistical Analysis

The results show that the level of property rights protection in 1913—as a proxy for the political power of the middle classes—is strongly positively associated with the present-day level of meritocracy in recruitment and strongly negatively related to the present-day level of political appointments. These results provide strong complementary evidence in support of the theory introduced here. Further details can be found in Figure 6.2, Figure 6.3, Table 6.3, and Table 6.4.

**Figure 6.2:** Meritocracy of Recruitment (2014) and Property Rights (1913) from Empirical Min. to Max. (90% Conf. Int.)



**Figure 6.3:** Political Appointments (2014) and Property Rights (1913) from Empirical Min. to Max. (90% Conf. Int.)



**Table 6.3:** Merit Recruitment (2014) and Property Rights (1913)

	<i>Dependent variable:</i>					
	Merit Recruitment (QOG)					
	(1)	(2)	(3)	(4)	(5)	(6)
Property Rights <sub>1913</sub>	4.034*** (0.801)	3.974*** (0.800)	3.719*** (0.796)	3.864*** (0.988)	3.789*** (0.851)	3.591*** (0.819)
Div. Party Ctrl. <i>Avg.</i> 1990–		0.013 (0.320)				
Leg. Party Coh. <i>Avg.</i> 1990–			0.204 (0.178)			
MID Count <sub>1863–1913</sub>				0.006 (0.009)		
University Students <sub>1913</sub>					0.036 (0.029)	
University Students <i>Avg.</i> 1990–						0.013 (0.010)
Constant	2.307*** (0.495)	2.390*** (0.512)	2.370*** (0.476)	2.324*** (0.661)	2.272*** (0.539)	2.029*** (0.556)
Observations	28	27	27	21	25	27
Log Likelihood	–38.092	–36.111	–35.473	–29.133	–32.336	–35.340

Note: Tobit Regression

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 6.4:** Political Appointments (2014) and Property Rights (1913)

	<i>Dependent variable:</i>					
	Political Appointments (QOG)					
	(1)	(2)	(3)	(4)	(5)	(6)
Property Rights <sub>1913</sub>	-2.990*** (0.952)	-2.914*** (0.982)	-2.503*** (0.950)	-2.209** (1.088)	-3.119*** (1.128)	-2.943*** (1.036)
Div. Party Ctrl. <i>Avg.</i> 1990–		0.086 (0.393)				
Leg. Party Coh. <i>Avg.</i> 1990–			-0.371* (0.213)			
MID Count <sub>1863–1913</sub>				0.002 (0.010)		
University Students <sub>1913</sub>					0.014 (0.038)	
University Students <i>Avg.</i> 1990–						-0.0004 (0.013)
Constant	6.492*** (0.588)	6.404*** (0.628)	6.494*** (0.568)	5.893*** (0.727)	6.444*** (0.714)	6.459*** (0.703)
Observations	28	27	27	21	25	27
Log Likelihood	-42.935	-41.667	-40.248	-31.155	-39.395	-41.690

Note: Tobit Regression

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### **Additional Empirical Analysis: the Years 1910-1925**

As done for the previous analysis, in order to ensure that the results of the statistical analysis are robust regardless of the choice of year, the regressions using the level of property rights as a measurement of middle-class influence were conducted for a large number of years (1910-1925).

Table 6.5 shows the results of multiple Tobit regressions with the level of meritocracy as the key dependent variable and property rights as the key independent variable for all years from 1910 to 1925. Models 1-6 each include the same covariates as models 1-6 in the previous subsection. As shown, the results are robust for all years.



	Year	$\beta_1$ (M1)	$\beta_1$ (M2)	$\beta_1$ (M3)	$\beta_1$ (M4)	$\beta_1$ (M5)	$\beta_1$ (M6)	p (M1)	p (M2)	p (M3)	p (M4)	p (M5)	p (M6)
1	1910	3.993	3.930	3.683	3.832	3.741	3.557	0.000	0.000	0.000	0.000	0.000	0.000
2	1911	4.033	3.959	3.718	3.841	3.789	3.594	0.000	0.000	0.000	0.000	0.000	0.000
3	1912	4.043	3.979	3.727	3.864	3.799	3.599	0.000	0.000	0.000	0.000	0.000	0.000
4	1913	4.034	3.974	3.719	3.864	3.789	3.591	0.000	0.000	0.000	0.000	0.000	0.000
5	1914	3.940	3.857	3.580	3.780	3.658	3.500	0.000	0.000	0.000	0.000	0.000	0.000
6	1915	3.668	3.688	3.314	3.713	3.532	3.291	0.000	0.000	0.000	0.000	0.000	0.000
7	1916	3.579	3.673	3.256	3.754	3.526	3.279	0.000	0.000	0.000	0.001	0.000	0.000
8	1917	3.603	3.658	3.274	3.754	3.631	3.218	0.000	0.000	0.000	0.001	0.000	0.000
9	1918	3.406	3.576	3.300	4.146	3.263	3.224	0.000	0.000	0.000	0.000	0.000	0.000
10	1919	3.019	3.062	2.877	3.894	2.900	2.780	0.000	0.000	0.000	0.000	0.000	0.000
11	1920	2.995	3.044	2.840	3.951	2.849	2.725	0.000	0.000	0.000	0.000	0.000	0.000
12	1921	3.028	3.068	2.882	3.954	2.881	2.764	0.000	0.000	0.000	0.000	0.000	0.000
13	1922	3.085	3.121	2.939	3.954	2.927	2.818	0.000	0.000	0.000	0.000	0.000	0.000
14	1923	3.323	3.356	3.184	4.053	3.223	2.930	0.000	0.000	0.000	0.000	0.000	0.000
15	1924	3.052	3.087	2.885	3.550	2.775	2.599	0.000	0.000	0.000	0.000	0.001	0.000
16	1925	3.144	3.181	2.989	3.601	2.871	2.692	0.000	0.000	0.000	0.000	0.001	0.000

**Table 6.5:** Meritocracy and Property Rights: Robustness Checks for the Years 1910-1925

Similarly, Table 6.6 shows the results of multiple Tobit regressions with the level of political control as the key dependent variable and property rights as the key independent variable for all years from 1910 to 1925. Models 1-6 each include the same covariates as models 1-6 in the previous subsection. In some cases, the years 1914-1918 do not reach the highest levels of statistical significance. However, we can discount those outliers as the events of World War One dramatically influenced the level of property rights in a large number of countries.

	Year	$\beta_1$ (M1)	$\beta_1$ (M2)	$\beta_1$ (M3)	$\beta_1$ (M4)	$\beta_1$ (M5)	$\beta_1$ (M6)	p (M1)	p (M2)	p (M3)	p (M4)	p (M5)	p (M6)
1	1910	-2.977	-2.901	-2.509	-2.197	-3.088	-2.934	0.002	0.003	0.007	0.042	0.005	0.004
2	1911	-2.972	-2.890	-2.495	-2.204	-3.082	-2.932	0.002	0.003	0.008	0.041	0.006	0.005
3	1912	-2.987	-2.908	-2.498	-2.209	-3.112	-2.941	0.002	0.003	0.009	0.042	0.006	0.005
4	1913	-2.990	-2.914	-2.503	-2.209	-3.119	-2.943	0.002	0.003	0.008	0.042	0.006	0.004
5	1914	-3.079	-3.001	-2.474	-2.134	-3.167	-3.014	0.001	0.003	0.008	0.057	0.005	0.003
6	1915	-3.003	-2.977	-2.422	-2.096	-3.153	-2.939	0.002	0.003	0.010	0.061	0.005	0.004
7	1916	-3.035	-3.054	-2.436	-2.174	-3.272	-2.954	0.003	0.003	0.014	0.066	0.005	0.005
8	1917	-2.789	-2.865	-2.168	-2.174	-2.977	-2.610	0.008	0.007	0.035	0.066	0.014	0.018
9	1918	-2.552	-2.913	-2.175	-2.415	-2.979	-2.774	0.010	0.003	0.032	0.045	0.004	0.008
10	1919	-2.732	-2.929	-2.543	-2.287	-3.039	-2.917	0.000	0.000	0.001	0.038	0.000	0.000
11	1920	-2.692	-2.937	-2.588	-2.341	-2.890	-2.828	0.001	0.000	0.002	0.034	0.002	0.001
12	1921	-2.717	-2.945	-2.625	-2.355	-2.937	-2.855	0.001	0.000	0.001	0.032	0.001	0.000
13	1922	-2.757	-2.978	-2.665	-2.355	-2.985	-2.897	0.001	0.000	0.001	0.032	0.002	0.000
14	1923	-2.609	-2.813	-2.505	-2.364	-2.855	-2.702	0.003	0.001	0.004	0.030	0.005	0.003
15	1924	-2.418	-2.620	-2.306	-2.035	-2.483	-2.394	0.005	0.002	0.009	0.059	0.014	0.007
16	1925	-2.459	-2.661	-2.343	-2.055	-2.546	-2.436	0.004	0.002	0.008	0.052	0.011	0.006

**Table 6.6:** Political Control and Property Rights: Robustness Checks for the Years 1910-1925

## 6.2 Appendix of Chapter Three

This appendix includes additional empirical evidence and further discussions of claims that were made in the third chapter. In subsection 6.2.1, I analyze data on pre-treatment characteristics of towns in the three partitions. In subsection 6.2.2, I present a list of the tasks of Polish communes. In subsection 6.2.3, I examine the chosen dependent variables and provide further support for the operationalization. In subsection 6.2.4, I discuss how the measurement of efficiency is related to the historical literature on state building. In subsection 6.2.5, I present the results of my expert interviews. In subsection 6.2.6, I discuss two alternative mechanisms of transmission and why they can be ruled out in the case of Poland. In subsection 6.2.7, I present comprehensive background information on the expert interviews. In subsection 6.2.8, I present some details on the electronic survey, including on the questions that were used to construct the dependent variables. In subsection 6.2.9, I apply the Holm-correction to the p-values obtained in the main regressions. In subsection 6.2.10, I provide an empirical analysis that simultaneously considers observations in all partitions.

In subsection 6.2.11, I discuss the possibility of and provide evidence for multiple treatment effects of imperial rule. In subsection 6.2.12, subsection 6.2.13, and subsection 6.2.14, I provide additional empirical analyses to complement the results presented in the main body of the chapter. Finally, in subsection 6.2.15, subsection 6.2.16, and subsection 6.2.17, I provide three extensions of the empirical analyses. In the first extension (subsection 6.2.15), I analyze data from a small subset of voivodeships that were crossed by historical imperial boundaries. In the second extension (subsection 6.2.16), I include controls for the political affiliation of mayors and regional GDP. In the third extension (subsection 6.2.17), I introduce weights for distance to the historical border, giving greater weight to observations close to the imperial boundaries.

### 6.2.1 Pre-Treatment Characteristic Comparison

In the historical background section (section 3.3), I provide both evaluations by historians and references to multiple publications that support the claim of quasi-randomness of the imperial borders. Additionally, I use data by Becker et al. (2016) on medieval city size, access to medieval trade routes, and presence of a medieval diocesan town to compare pre-treatment (meaning ‘pre-partitioning’) characteristics of towns in the Prussian, Austrian, and Russian partition to towns in the other two partitions, respectively. The purpose of this comparison is to address arguments that historically deeply rooted pre-treatment characteristics could have differed so significantly that they might be responsible for the observed long-term variation.<sup>1</sup>

While the data by Becker et al. (2016) cover a large number of towns across most of South-Eastern Europe, I have used a subset of towns in present-day Poland. The

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<sup>1</sup>For detailed studies on the issue of precolonial influences, see Arias and Girod (2014), Hariri (2012), and Wilfahrt (2018).

results indicate that there were some differences, but they were either small, not statistically significant, or both. In all of the comparisons below, I fail to reject the null hypothesis at  $\alpha = 0.1$ . For more details, see Table 6.7, Table 6.8, Table 6.9 below.

**Table 6.7:** Pre-Treatment Characteristic Comparison: Prussian and Non-Prussian Towns

Variable	$\bar{x}$	$\bar{y}$	Test Statistic	p-value
Medieval City Size	7.08	3.90	$t = 0.69$	0.53
Access to Medieval Trade Route	0.11	0.31	$z = -1.53$	0.13
Medieval Diocesan Town	0.11	0.16	$z = -0.40$	0.68

**Table 6.8:** Pre-Treatment Characteristic Comparison: Austrian and Non-Austrian Towns

Variable	$\bar{x}$	$\bar{y}$	Test Statistic	p-value
Medieval City Size	4.67	5.64	$t = -0.24$	0.82
Access to Medieval Trade Route	0.33	0.18	$z = 0.85$	0.40
Medieval Diocesan Town	0.22	0.11	$z = 0.73$	0.47

**Table 6.9:** Pre-Treatment Characteristic Comparison: Russian and Non-Russian Towns

Variable	$\bar{x}$	$\bar{y}$	Test Statistic	p-value
Medieval City Size	2.75	6.05	$t = -1.22$	0.26
Access to Medieval Trade Route	0.30	0.19	$z = 0.67$	0.50
Medieval Diocesan Town	0.10	0.15	$z = -0.40$	0.69

## 6.2.2 Organizational Tasks of Polish Communes

In the historical background section (section 3.3), I describe that Polish communes have the same legally required tasks across Poland. A Polish law from the year 1990 (Dz.U. 1990 nr 16 poz. 95) specifies these objectives. In articles 7 and 8 it prescribes that the fundamental tasks of Polish communes include ensuring, maintaining, and operating the following:<sup>2</sup>

<sup>2</sup>Note that—as elaborated in the section on the empirical test (section 3.5)—I include a large number of covariates that could account for potential differential use of those services. Also note that

(1) Spatial order, real estate management, environmental protection, conservation of nature, and water management; (2) municipal roads, streets, bridges, squares and traffic systems; (3) waterworks and water supply, sewers, waste disposal, water purification, maintenance of cleanliness and order, sanitary facilities, dumping grounds and the disposal of municipal waste, electricity and thermal gas supply; activities in telecommunications; (4) local public transport; (5) health care; (6) social assistance, care homes; family support and foster care systems; (7) communal housing construction; (8) public education; (9) cultural facilities, including municipal libraries and other cultural institutions, protection of and care for monuments; (10) sport and tourist facilities, including recreational areas and equipment; (11) outdoor and indoor marketplaces; (12) green spaces; (13) communal cemeteries; (14) public order and citizens' safety, protection from fire and floods, including the equipment and maintenance of the municipal flood protection warehouse; (15) maintenance of municipal facilities, utilities, and administrative buildings; (16) pro-family policies, including support for pregnant women, medical and legal care; (17) support and dissemination of the idea of self-government, including the creation of conditions for the operation and development of supporting units and the implementation of programs stimulating civic participation; (18) promotion of the municipality; (19) cooperation with and activities for non-governmental organizations and entities mentioned in Art. 3, paragraph 3 in the Act of April 24th, 2003 regarding public benefit activities and volunteering; (20) cooperation with local and regional communities in other countries; (21) (Art. 8) tasks commissioned by the central government.

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Polish communes may choose to provide additional services (optional tasks) to their constituents. However, these optional tasks are unlikely to vary systematically with the historical imperial borders which I (and other scholars) have found to be quasi-random.

### 6.2.3 Further Examination of the Chosen Dependent Variables

In the historical background section (section 3.3), I theoretically discuss the operationalization of efficiency and meritocracy. The work of a large number of scholars supports my choices of the dependent variables. However, an additional empirical justification would be desirable. Thus, in this section, I provide further empirical evidence in favor of my operationalization.

I use the relative number of applicants as a proxy for meritocracy. If the number of applicants is a good proxy for the meritocracy of recruitment, it should theoretically be correlated with bureaucratic performance (cf. Calvo and Murillo, 2004). Indeed, as Table 6.10 shows, meritocracy in recruitment, as measured by the number of applicants per job opening, is a key determinant of bureaucratic efficiency in two ways. First, controlling for a large number of other variables that could have an impact on efficiency, there is a significant effect on the average processing time of vehicle registration certificates. I also account for the absolute number of vehicle certificate requests a commune receives and for the distance to Warsaw, as the certificates are produced in the capital and sent to the communes.

Note that only powiat-level communes are responsible for processing vehicle certificate requests. Therefore, the number of observations is substantially lower here (26). Considering that only powiat-level communes work on this task, there is no need to control for commune type. Unfortunately, I do not have comparable data for regular communes (*gminas*), and this is why I cannot use this measure in the geographic RDD framework.

Second, communes with a higher level of meritocracy, as measured in terms of applicants per job, also have significantly fewer employees relative to their population size, indicating a higher level of efficiency. These results hold when controlling for a



variety of factors that could have an impact on the size of an administration, such as a commune's tax revenues and powiat-status among others. They are broadly in line with arguments by Calvo and Murillo (2004). Overall, these results strengthen the perspective that the chosen measure is a good proxy for the theoretical concept.

**Table 6.10:** Meritocracy and Efficiency

	<i>Dependent variable:</i>			
	Process. Time (Log.)		Empl./Pop. (Log.)	
	(1)	(2)	(3)	(4)
App./Job (Log.)	-0.180 (0.116)	-0.434** (0.204)	-0.065*** (0.017)	-0.045*** (0.016)
No. Veh. Req. (Log.)		0.315 (0.206)		
Dist. to Warsaw		0.00000 (0.00000)		
Revenue (Log.)		-0.365 (0.844)		0.515*** (0.058)
Pop. Density (Log.)		-0.022 (0.153)		-0.106*** (0.019)
Avg. Migr.		0.054 (0.043)		-0.0002 (0.002)
Unempl. Avg.		0.041 (0.029)		-0.001 (0.002)
City Powiat				-0.105 (0.065)
Rural Commune				-0.241*** (0.062)
Urban-Rural Comm.				-0.319*** (0.056)
Constant	3.166*** (0.304)	3.194 (6.370)	1.482*** (0.028)	-1.961*** (0.508)
Observations	26	26	557	551
R <sup>2</sup>	0.092	0.287	0.026	0.272
Adjusted R <sup>2</sup>	0.054	0.010	0.024	0.262

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Moreover, in Table 6.11 I show that that communes with more employees—meaning a greater financial burden—do not compensate for their size with improved performance (at either processing vehicle registration certificates or responding to my survey). In fact, taking a large number of other factors into account, I find that

communes with a larger relative number of employees needed more—not less—time to respond to my survey. This supports the notion that having more employees is not systematically associated with superior performance at providing services. The results strengthen the argument for using the relative number of employees as a key dependent variable for efficiency.

**Table 6.11:** Relative Employees and Speed

	<i>Dependent variable:</i>			
	Process. Time (Log.) (1)	Response Time (Log.) (2)	Response Time (Log.) (3)	Response Time (Log.) (4)
Empl./Pop. (Log.)	0.082 (0.430)	0.387 (0.547)	0.039 (0.120)	0.438*** (0.152)
No. Veh. Req. (Log.)		0.065 (0.180)		
Dist. to Warsaw		−0.00000 (0.00000)		
Revenue (Log.)		0.241 (0.872)		−0.219 (0.208)
Pop. Density (Log.)		−0.041 (0.171)		0.003 (0.054)
City Powiat		0.050 (0.048)		0.003 (0.008)
Avg. Migr.		0.039 (0.033)		0.017** (0.008)
Unemployment Avg.				0.300*** (0.094)
Population (Log.)				−0.077 (0.257)
City Powiat	2.599*** (0.596)	−0.306 (6.932)	2.230*** (0.171)	0.442 (1.798)
Observations	26	26	661	655
R <sup>2</sup>	0.002	0.132	0.0002	0.050
Adjusted R <sup>2</sup>	−0.040	−0.205	−0.001	0.040

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## 6.2.4 The Number of Employees and State Capacity

In the historical literature on the development of the state, the number of public employees as a percentage of the population is often considered a possible indicator

of the development of state capacity (Mann, 1993, Ch. 11, esp. 393).<sup>3</sup> The underlying assumption is that bureaucratic capacity expands with the number of state employees. Given the significant increases of (fiscal) state capacity many countries experienced in the 19th and 20th centuries (Queralt, 2015), an expansion in the number of public employees also took place (Mann, 1993, Ch. 11-12, esp. 393). If this is correct, it might cast doubt on using the relative number of employees as a measurement for bureaucratic efficiency.

However, a crucial qualification has to be made with respect to using the relative number of employees as a measurement for state capacity. This measurement is best for historical or inter-temporal comparisons—when the expected outputs (or organizational tasks) of the state are expanding jointly with the size of the administrative apparatus. For example, in late-19th-century Germany, the outputs of the state in terms of public goods and services and the size of the administration increased together, leading to a significantly higher proportion of employees working for the state apparatus (Wunder, 1986, 72-73).

Yet when we hold the organizational tasks of the administrative state constant, as is the case across Polish communes (see subsection 6.2.2), the relative number of state employees is no longer an appropriate measure for state capacity. In the section above (subsection 6.2.3), I demonstrated that more employees are not associated with the superior provision of services. Thus, a larger number of employees is primarily associated with an increased financial burden to the respective commune.

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<sup>3</sup>One should be cautious when applying this measurement to socialist countries in which the vast majority of economic activity is under the control of the public sector.

## 6.2.5 Expert Interviews

In the historical background section (section 3.3), I discussed two theoretical mechanisms of inter-temporal transmission. For both of those mechanisms, I already provided some empirical evidence, amongst others from existing studies (Becker et al., 2016; Grosfeld and Zhuravskaya, 2015). In addition to the evidence from previous studies, I conducted expert interviews, primarily with Polish scholars and employees of public administrations.

Here, I provide an overview of these expert interviews that took place in May 2017. Semi-structured interviews (often with an exploratory component) were conducted in six different Polish cities (Warsaw, Gdańsk, Toruń, Poznań, Kraków, and Lublin) and one by email. The participants included 13 scholars and 3 employees of local public administrations (Warsaw and Gdańsk). Some more details, including a list of all interview partners and the question topics, are provided below.

The mechanisms outlined below cannot be seen as entirely independent from each other. On the contrary, they are likely related and mutually reinforcing. I discuss them separately for two reasons. First, each of them is related to another strand of the political-economy literature. Second, these mechanisms were often discussed separately during the expert interviews. Accordingly, I present these three related mechanisms in distinct sections while acknowledging their interconnections.

### Results of the Expert Interviews

**(1) Endurance of Culture:** According to several of the interviewed experts, in present-day Poland there are still some regional differences in culture. The attempts of Germanization and Russification by the German and Russian administrations had an impact on Polish culture in the respective partition. Culture in the western and

southern parts of Poland is generally characterized by a higher degree of formality, anonymity, meritocracy, and adherence to written rules. These were values associated with the process of Germanization as described in the historical background section (section 3.3). Accordingly, the Prussian bureaucracy was well-known for conforming with the principles of the *Rechtsstaat* (Davies, 2005, 86).<sup>4</sup> The positive aspects of German culture were appreciated and imitated by the Poles (Davies, 2005, 90). Those traits also affect administrative culture, leading to greater efforts by public administrators to be efficient, transparent, and meritocratic, which is reflective of the historically stronger emphasis of these norms by the Prussian and Austrian public administrations.

Despite attempts by the Nazis and by the Communists to homogenize the country's culture, the remarkable differences produced by 123 years of foreign rule have a (small) influence on regional culture until the present day.

The assertion of long-lasting cultural differences between the partitions related to past imperial rule is in accordance with Hryniewicz (1996) and Grosfeld and Zhuravskaya (2015). The latter find evidence in favor of a lasting imperial impact on specific values, such as democratic capital. However, it is noteworthy that some experts also expressed skepticism about this mechanism.

**(2) Attitudes towards the Bureaucracy:** Given the very different levels of efficiency and performance of the three empires' public administrations, historically-formed views of bureaucracies that were transmitted across multiple generations could potentially still shape the views of the Polish public on the administration (Majcherkiewicz, 2008, 140). In particular, Russia was seen as a "backward, uncivilized regime," while many Poles recognized "the efficiency of German political and eco-

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<sup>4</sup>The term *Rechtsstaat* is often understood as combining the principles of the rule of law with justness of the law.

conomic institutions” (Grosfeld and Zhuravskaya, 2015, 60).<sup>5</sup> The forceful attempts of Russification and high levels of corruption in the Russian bureaucracy alienated the Poles and were rejected by them (Davies, 2005, 74-75, 78-81). Attitudes towards the public administration in Galicia were generally positive due to its high level of autonomy. Some of the interviewed experts agreed that historically-formed views of public administration could still play a role, while others disagreed.

More positive attitudes towards the public administration in the formerly Prussian and Austrian parts may have led to the self-selection of more qualified candidates into applying for bureaucratic positions and thus continuously reinforced a higher level of bureaucratic efficiency and performance (Dahlström, Lapuente and Teorell, 2012; Evans and Rauch, 1999).

The claim that attitudes towards public institutions could still differ across imperial borders is supported by Becker et al. (2016) whose overall results suggest that perceptions of public institutions, specifically courts and the police in the present day, may still be shaped by historical foreign rule—in this particular case of the Habsburg Empire. However, as stated above, several experts expressed doubt about this mechanism of transmission.

**(3) Social Structures:** As a number of experts confirmed during the interviews, social structures differ between Poland’s east and west. According to the political-economy literature, such differences in social structures could affect labor market outcomes, including recruitment into private and public organizations (cf. Granovetter, 2005; Montgomery, 1991; Putnam, Leonardi and Nanetti, 1994). The repressive historical rule through Russia, including the most forceful suppression of Polish culture, the subordination of Polish citizens to the bureaucracy, and the widespread corruption and abuse of power by Russian authorities meant that, historically, the

<sup>5</sup>See also Majcherkiewicz (2008, 142) and Borodziej (2010, 26-28).

people in Poland's east could not rely on written rules or protection by a *Rechtsstaat* (Davies, 2005, 65-68, 70-74).<sup>6</sup> This led to (1) greater emphasis on informal, personal relationships within smaller communities (narrower social networks) and (2) greater distrust of outsiders. On the other hand, much greater adherence to formal rules by the administrations in the Prussian and Austrian parts had the opposite effect. Even though differences in social structures have become somewhat less pronounced over time, they still exist in present-day Poland.

This has important implications for public recruitment. In the east, recruitment outcomes could be more strongly influenced by friendship, acquaintance, and relatedness than in the west. According to the experts, there are ways to circumvent formal procedures and put preferred candidates at an advantage. Narrow social networks and an emphasis on personal connections can affect the number of public employees because favoritism in the distribution of positions could lead to over-bloated administrations.

However, as one of the experts also pointed out, patronage recruitment in local public administration is a problem that can be observed all across the country. The differences between the regions might therefore be *differences of degree* rather than categorical ones.

## Summary of the Expert Interviews

Several mechanisms can potentially account for the observed differences. In particular, (1) the endurance of culture, (2) attitudes towards the public administration, and

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<sup>6</sup>For example, Davies (2005, 73) describes the system of imprisonment and prosecution: "Suspects had fewer known rights than condemned men. Deportation to Siberia could be ensured simply by withdrawing the victim's permission to continue at his place of residence. It was frequently applied to persons who could not be charged with a criminal offence, but whose temporary absence was desirable for official reasons. Surveillance and harassment could not be objected to, since every loyal citizen's duty was to co-operate with the authorities."

(3) social structures differed historically and might still differ in present-day Poland as a long-term result of historical imperial rule. However, considering the different views held by the experts, no single mechanism can be definitively confirmed or entirely ruled out. Identifying the most important mechanism is a possible avenue for future research in this area. Finally, in the section below, I discuss and rule out two more mechanisms.

### 6.2.6 Alternative Mechanisms of Transmission

**Persistence of Formal/Legal Institutions:** The persistence of formal institutions governing the public administration can be observed in many countries. Even though, for some time, the Second Polish Republic (1918-39) was characterized by the parallel existence of multiple legal systems on its territory that were remainders of imperial rule (which can be seen as an extension of the treatment effect into the 1920s, as elaborated in section 3.4), attempts to homogenize the legal framework were ultimately successful and the old laws were successively replaced by new Polish ones (Tarnowska, 2012; Tarnowska, 2013). For example, in 1922 a law was passed which provided “for the comprehensive regulation of the legal and social status of civil servants in the Second Republic of Poland” (Itrich-Drabarek, 2015, 37). More importantly, in present-day Poland there is complete homogeneity of formal and legal institutions with respect to public administration. As two experts confirmed during the interviews, the legal culture of Poland, too, is no longer distinguishable across different regions.

**Continuity in Administrative Personnel:** During the period of division and especially in the second half of the 19th century, the local administrations in the Russian and Prussian parts of Poland were dominated by nationals of the ruling



powers. While some administrators remained in their positions (as elaborated in section 3.4), after the founding of the Second Polish Republic, new administrators had to be recruited in addition to the remaining personnel (Roszkowski, 1992, 158, 174).<sup>7</sup> This means that there initially was some persistence in personnel. However, due to significant shifts in administrative personnel at multiple other points in history (including during communist rule after World War Two), continuity in personnel is not a credible mechanism of persistence beyond the period of Interwar Poland. This view was confirmed by multiple experts.

To summarize, while formal institutions might have prolonged the influence of the empires in the Second Polish Republic (1918-39) (extending the quasi-experimental ‘treatment’ effect of distinct administrative systems), differences in formal institutions are nearly non-existent in the present day. Therefore, formal institutions can no longer explain systematic regional differences. Furthermore, despite some initial continuity in personnel, major disruptions in terms of personnel that first the Nazis and later the Soviets brought to the public administration mean that continuity in personnel can also be ruled out as a factor of *long-term* persistence (beyond the period of Interwar Poland).

### 6.2.7 Additional Information on the Expert Interviews

Expert interviews were conducted in May 2017 in six Polish cities: Warsaw, Gdańsk, Toruń, Poznań, Kraków, and Lublin. Additionally, one interview was conducted by email. Those semi-structured interviews focused on administrative culture, recruitment into the local public administration, and the history of the public administration. In total, 13 scholars and 3 employees of local public administrations

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<sup>7</sup>According to Borodziej (2010, 28), in the Russian parts of Poland, 57 percent of the employees of the public administration had been Catholic (of which the vast majority were Polish people).

participated in them. The three key goals of the interviews were to (1) confirm the historical differences between the Prussian, Austrian, and Russian bureaucracies, (2) assess if regional differences still exist in the present day, and (3) identify the most likely mechanisms of inter-temporal transmission. The results of the interviews were discussed in subsection 6.2.5.

#### **List of Interview Partners:**

1. Professor Hubert Izdebski (Warsaw)
2. Professor Jolanta Itrich-Drabarek (Warsaw)
3. Professor Adam Bosiacki (Warsaw)
4. Dr. Dawid Sześciło (Warsaw)
5. Michał Staniszewski (City Administration of Warsaw)
6. Two employees of the Gdańsk city administration (Gdańsk)
7. Dr. Anna Tarnowska (Toruń)
8. Dr. Marek Krzymkowski (Poznań)
9. Professor Stanisław Mazur (Kraków)
10. Professor Dorota Malec (Kraków)
11. Professor Andrzej Dziadzio (Kraków, by email)
12. Dr. Marcin Zawicki (Kraków)
13. Dr. Krzysztof Głuc (Kraków)
14. Professor Grzegorz Smyk (Lublin)
15. Professor Marek Pietraś (Lublin)

## **Expert Interviews: Topics**

Depending on their primary field of expertise, the interviewees were asked questions from three areas of interest: (1) administrative culture, (2) recruitment into the local public administration, and (3) the history of the public administration. As the interviews were semi-structured, the three topic areas were rough guidelines, but there was significant space for deviating from the original questions and asking more specific ones depending on both the given answers and the exact field of expertise of the respective interviewee. Following the first few interviews and based on the responses obtained through them, more detailed questions on inter-temporal mechanisms of transmission were added in later interviews. Thus, the interview process had a significant exploratory component.

## **Expert Interviews: Question Catalogue**

### **Topic 1: Administrative Culture**

1. Let us talk about the values and the culture of the local public administration.
2. How important is it for the public administration to be responsive to the needs of citizens?
3. Which measures are taken to ensure that requests by citizens are responded to comprehensively and in a professional manner? Such measures can include job training, seminars, or regulations put in place at the local administration.
4. How important is it for the public administration to ensure quick response times?
5. Which measures are taken to ensure that requests by citizens are responded to quickly?
6. How important is accountability to members of the local public administration? Who are members of the local public administration accountable to? Their superiors (career bureaucrats)? The law? Citizens? The political leadership of the commune?

7. Let me give you an academic definition of administrative culture. By administrative culture, we refer to “shared values and persistent patterns of interaction”, i.e. goals, standards, patterns of behavior that are characteristics of the local public administration.
8. What are the main characteristics of the administrative culture in the local public administration?
9. Let me name a few administrative norms and values: (1) accountability (adherence to rules and regulations), (2) efficiency and speed, (3) loyalty to superiors (leading career bureaucrats), (4) political impartiality, (5) responsiveness to the needs of citizens. When it comes to values, which values are most important to the employees of this public administration? Which of those values are most important to the political leadership and why?
10. If there are any differences in the values that are important to the political leadership and the citizens, where do these differences come from?
11. Has the administrative culture changed much over the last 20 years? Have any reforms occurred that might have had an impact on the administrative culture?
12. If no, what contributes to the persistence of administrative culture?
13. If yes, what are the most important changes in the administrative culture?
14. Are employees of the local public administration generally satisfied with the administrative culture? Why or why not?
15. What do you think is the perception that local citizens have of the administration?
16. Do local citizens view the public administration as efficient or inefficient? Do they have positive or negative views of it?
17. Are there regional differences in terms of how the public administration is perceived? Do people in the west of Poland have views that differ from the views of people in the east or the south of the country?
18. If there is regional variation, do you have any explanation for why we observe these differences across different parts of Poland?
19. Are there any additional important aspects of administrative culture that we have not yet talked about? If yes, what are they and why are they important?

## **Topic 2: Recruitment into the Local Public Administration**

1. Let us talk about recruitment procedures in the local public administration.

2. How does the recruitment process look like in general? How are positions advertised? How are candidates chosen for tests and/or interviews? How are the tests and/or interviews conducted?
3. How many people are involved in the recruitment process of a single applicant? Who makes the final decision regarding who is hired?
4. How much emphasis do recruiters of the public administration put on experience in comparable jobs when it comes to recruitment?
5. How much emphasis do recruiters of the public administration put on academic or educational qualifications when it comes to recruitment?
6. How much emphasis do recruiters of the public administration put on tests or interviews that the candidates have to participate in?
7. Do people sometimes have a chance to be hired without the perfect educational background or related job experience? If yes, which factors might help them in terms of being hired?
8. How openly are job positions advertised? How many different channels of advertisement are used?
9. Which methods are used to ensure that the hiring process is fair and transparent?
10. Have there been any situations in the past where the fairness or transparency of the hiring process was called into question? If yes, which measures were taken to address this?
11. Which impact does the view that people have of the administration have on applicant numbers?
12. How attractive is the public administration to people as a working place? How does this affect the numbers of applicants?
13. Is the public administration aware of the importance of public attitudes toward local public administration for recruitment?
14. Have the attitudes towards the bureaucracy (that citizens and applicants have) changed in any way over the last 10, 20, or more years?
15. Are there any additional important aspects of the recruitment process that we have not yet talked about? If yes, what are they and why are they important?

### Topic 3: The History of the Public Administration

1. Let us talk about the history of the public administration.
2. Have there been any major reforms of the public administration since 1990 (including the break from socialism)? If yes, what was their goal? Were they effective at reaching that goal?
3. How did administrative reforms affect the central administration of the state?
4. How did administrative reforms affect the local public administration?
5. I would like to go ask about previous historical periods. Several scholars and historians argue that the period 1795 to 1918 was important for the views of the Polish public on the state and the public administration. In what ways has this period shaped the view of the Polish people on the state and on the public administration?
6. What are the long-term consequences of these historical experiences on the public view of the local bureaucracy?
7. What were the key differences between the public administrations of the powers that ruled Poland in the time period 1795 to 1918? How did this influence the parts that were under their control?
8. How has the unification of Poland in 1918 and the end of foreign rule changed the local public administration? How successful was the reform/reorganization of the public administration at the beginning of the Polish Second Republic? Which things did change and which things did not?
9. Were there any legacies from the period of foreign rule that persisted after 1918? If yes, what were they and how did this affect the new public administration?
10. How did the rule of the Nazis from 1939 to 1945 affect the public administration of Poland? Which aspects of Polish public administration survived this period, which aspects were lost?
11. How was the public administration organized during the period of socialism? How did the socialist rule affect the public administration? Which things were different back then and which things very similar? Which reforms occurred during the period of socialism?
12. What would you say how much history matters for the current state of the public administration? Have historical developments shaped the present-day public administration?

13. In places where the public administration is perceived as more efficient or prestigious, are people more likely to apply for jobs in it?
14. Are there any additional important aspects of the history of the public administration (both on the central and local level) that we have not yet talked about? If yes, what are they and why are they important?

## 6.2.8 Additional Information on the Survey

In the section on the empirical test (section 3.5), I have already discussed some aspects of the survey, including its goals, distribution, and response rates. In this section, I provide additional information on the survey.

### Collection of the Email Addresses

The email addresses were extracted from a Polish government database that includes the contact information of all public offices in Poland, including those at the national, regional, and local level (Biuletyn Informacji Publicznej, 2016). Thus, the email addresses represent the public contact information of the respective local public administrations.

### Introduction Email

The following email was sent to the local public administrations in Polish. Since the request is based on a very specific Polish law regarding public inquiries of administrative information, it was then typically forwarded internally to the person/s responsible for answering such public inquiries. In addition to the survey response itself, I have received a large number of acknowledgments from public administrations that they had received my questionnaire and were treating it as an official inquiry. In total, (with the help of a translator) I have corresponded with more than 150 officials from local public administrations. Furthermore, during the qualitative data

collection efforts in Poland, I conducted interviews with employees who were responsible for responding to my survey. Accordingly, I have comprehensive information on the process and the data represent official information from the respective local administration.

“Dear Sir or Madam,

I am a researcher at Duke University (Durham, North Carolina, United States of America) and I conduct a research project on the “Political Economy of Public Bureaucracy”. As a part of the project, I would like to request information concerning public administration on the range of subjects that are mentioned in the email below (based on the law on the access to public information [INSERT HERE: Polish reference to the law, included in the email literally: art.2 ust.1) z dnia 6 wrzenia 2001 r. /Dz. U. Nr 112, poz.1198, z pn.zm./]).

In addition to some general information about your local public administration (such as contact details, type of the commune, population size), I would like to request more specific information about job openings and applicants, vehicle certification requests, and the issuance of warehouse construction permits amongst others. To see the exact questions, please open the survey using the link below. Please note that the survey can be completed in multiple stages your answers will be saved automatically and you can just close the survey at any time and return later to complete it.

This information will be used for a research project on the “Political Economy of Public Bureaucracy”. The information you provide may be made available to the public. We ask you to provide an email address if there are any follow-up questions and you may provide a personal email address here (if you wish to do so). Please note that, if the data will be published in the future, there will be no email addresses included, so this piece of information will not be made available to the public. The following link provides some additional information on the research project:

[LINK TO THE INFORMATION SHEET]

If you have any questions on the research project or the survey, please contact Jan Vogler (jan.vogler@duke.edu). If possible, please use English when you contact him.

If you have any questions related to your participation in this survey, please contact Duke University's institutional review board (campusirb@duke.edu, +1-919-684-3030).

Below you will find a link that allows you to submit your replies via an electronic form. Please use this electronic form to view the questions and to submit your answers. (If it is impossible for



you to provide the answers via the electronic form, please send them by email. However, it would be strongly preferable if you can use the survey to provide the answers.) Many questions give you a choice to provide either the exact number or an approximation as your answer. Whenever you provide an approximation, please also indicate the range within which you think the true number is. The survey will ask you to give the lowest value of this range and the highest value of this range. This information helps us to understand the degree of uncertainty about the estimate.

For participating in the survey, please do not reply directly to this email, but submit your reply through the following link:

[LINK TO THE SURVEY]

Your participation will be very important for the success of the research project. Thank you very much in advance.

Best regards,

Jan Vogler

(Duke University, Durham, North Carolina, USA)”

## Questions Used to Construct the Dependent Variables

The following survey questions were used to construct the dependent variables:

### 1. Employees per Population:

*Question A:* “What is the number of residents of your commune (“gmina”) from the last known population count? Please only use numbers, no other symbols.”

*Question B:* “How many employees (“urzednik”) does your local public administration have in total? Please provide the exact number if you can. If you cannot provide the exact number, please provide an approximation.”

### 2. Applicants per Job:

*Question A:* “In the years 2014 and 2015, how many job openings at the level of the clerk (“urzednik”) did your local public administration have? Please provide the

exact number if you can. If you cannot provide the exact number, please provide an approximation.”

*Question B:* “How many applicants did your local public administration receive for these job openings at the level of the clerk (“urzednik”) in the years 2014 and 2015? Please provide the exact number if you can. If you cannot provide the exact number, please provide an approximation.”

### **3. Channels of Advertisement:**

*Question:* “In which form were the job openings at the level of the clerk (“urzednik”) in the years 2014 and 2015 advertised? Multiple answers are possible. Please check all that apply.”

(1) On the website of the local public administration; (2) On other websites; (3) Postings in local public administration buildings; (4) Postings in local stores; (5) Postings in other public locations; (6) Advertisements in local newspapers; (7) Advertisements in national newspapers; (8) Through private agencies for job searching; (9) Through public agencies for job searching; (10) Other/additional means of advertising; (11) They were not openly advertised.

## **6.2.9 Additional Analysis: Correcting p-Values for Multiple Comparisons**

Since I test six different hypotheses and H1-H3 are tested on two different sets of observations (Prussia/Russia and Austria/Russia), I provide additional results of the main regressions that correct the p-values of the legacy dummies for the fact that it is easier to obtain significant results when conducting multiple comparisons (Holm, 1979).<sup>8</sup> Even when applying this conservative approach to correcting p-values,

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<sup>8</sup>The corrected p-values are reflected by the number of stars (\*).

two key results remain highly statistically significant: The number of applicants per job is significantly lower in the former Russian partition when compared to the Prussian partition. Furthermore, the efficiency of formerly Austrian communes is significantly higher when compared to Russian communes. The significance of the same comparison (in terms of employees/population) between Prussia and Russia is reduced to a level of  $\alpha < 0.1$ . Importantly, the key result that is not statistically significant in this more conservative framework is the comparison between Prussia and Austria in terms of efficiency. Detailed results are in the table below (Table 6.12).

**Table 6.12:** Direct Comparisons (Simple Dummy Variables) (at Optimal Bandwidths) (Holm-Corrected p-Values)

	<i>Dependent variable:</i>								
	Empl./Pop.	App./Job	Advert.	Empl./Pop.	App./Job	Advert.	Empl./Pop.	App./Job	Advert.
	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>
	Prussia/Russia (Reg. 1-3)			Austria/Russia (Reg. 4-6)			Prussia/Austria (Reg. 7-9)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Russia	0.093* (0.036)	-0.300*** (0.086)	-0.080 (0.043)	0.235*** (0.052)	-0.021 (0.112)	-0.101 (0.060)			
Austria							-0.147 (0.066)	-0.278 (0.149)	-0.044 (0.075)
Interwar Germany	0.054 (0.043)	-0.189* (0.098)	-0.011 (0.046)				0.047 (0.069)	-0.266* (0.152)	-0.016 (0.077)
City Powiat	-0.099 (0.071)	0.901*** (0.161)	0.173** (0.075)	0.075 (0.120)	1.297*** (0.253)	0.377*** (0.111)	0.104 (0.090)	1.032*** (0.201)	0.220** (0.087)
Constant	1.352*** (0.028)	1.623*** (0.068)	0.885*** (0.034)	1.196*** (0.038)	1.388*** (0.091)	0.790*** (0.044)	1.372*** (0.057)	1.684*** (0.119)	0.859*** (0.064)
Observations	404	390	447	142	210	166	161	192	177
R <sup>2</sup>	0.023	0.110		0.129	0.115		0.090	0.153	
Adjusted R <sup>2</sup>	0.016	0.103		0.116	0.106		0.073	0.140	

Note: OLS, Q.-Poiss.  
Opt. BWs  
Holm-corrected p-values  
(For Legacy Dummies)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 6.2.10 Additional Analysis: Simple Dummy Variables (All Partitions)

Table 6.13 shows the results of the dummy variable regressions (Equation 3.1 and quasi-Poisson models) when all partitions are compared simultaneously in a single regression. Moreover, Figure 6.4 is a graphical illustration of the partition coefficients for the two linear models.<sup>9</sup>

The analysis reveals that, depending on the specification, Russian communes have approximately 6-9 percent more employees than Prussian communes. These results hold even when controlling for a large number of potentially confounding factors. I obtain a very similar result for communes that were part of Interwar Germany (5-10 percent more employees).<sup>10</sup> This is interesting because most people who were relocated to communes of Interwar Germany came from the formerly Russian parts (although some came from Eastern Galicia), meaning that the results are compat-

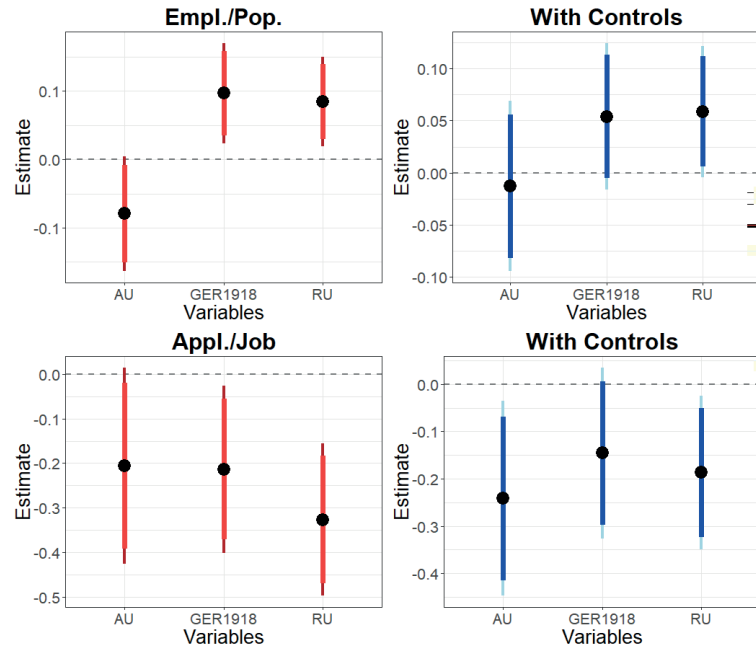
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<sup>9</sup>The coefficients of the quasi-Poisson model cannot be interpreted as easily, which is why I omit them from this plot.

<sup>10</sup>The result with covariates has an approximate value of 5 percent but is not statistically significant at conventional levels.

ible with the imperial legacies perspective. Austrian communes appear to be the most efficient with approximately 8 percent fewer employees in the model without covariates.

**Figure 6.4:** Coefficient Plot: Simple Dummy Variables (All Partitions)



Furthermore, Russian communes have approximately 17-28 percent fewer applicants per job than Prussian communes. Similarly, Austrian communes have approximately 19-21 percent fewer applicants. As we see, in the more rigorous regression discontinuity models (section 3.6), this result does not hold. Without covariates, communes in Interwar Germany show a similar pattern, but the results are no longer statistically significant when covariates are included.

Finally, on average, Russian communes use fewer channels of advertisement than Prussian communes. However, the associated value is smaller and not statistically significant in the model with covariates.

These results provide additional (limited) evidence in favor of imperial legacies with respect to public administrations. With the exception of the lower number of

applicants in the Austrian partition and the non-significance with respect to channels of advertisement, the results of all models are in the theoretically expected direction as elaborated in the historical background section (section 3.3). Austrian communes appear to be the most efficient, strengthening the argument that decentralization can positively affect bureaucratic efficiency in the long run. The models with covariates need to be interpreted with caution due to the substantial possibility of post-treatment bias. Below (subsection 6.2.16), I provide additional results accounting for local political factors and regional GDP.

**Table 6.13:** Imperial Legacies: Comparison of All Partitions (Simple Dummy Variables)

	<i>Dependent variable:</i>					
	Empl./Pop. (Log.)		App./Job (Log.)		Advert. Channels	
	<i>OLS</i>		<i>OLS</i>		<i>Quasi-Poisson</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Austria	-0.079*	-0.013	-0.206*	-0.242**	-0.070	-0.064
	(0.043)	(0.042)	(0.113)	(0.105)	(0.056)	(0.055)
Russia	0.084**	0.059*	-0.327***	-0.187**	-0.104**	-0.064
	(0.033)	(0.032)	(0.087)	(0.083)	(0.043)	(0.043)
Interwar Germany	0.097***	0.054	-0.213**	-0.146	-0.023	0.009
	(0.037)	(0.036)	(0.096)	(0.092)	(0.047)	(0.047)
Revenue (Log.)		0.510***		0.257		0.036
		(0.060)		(0.157)		(0.082)
Pop. Density (Log.)		-0.097***		0.059		0.045**
		(0.020)		(0.040)		(0.021)
City Powiat		-0.118*		0.087		-0.002
		(0.067)		(0.192)		(0.094)
Avg. Migr.		-0.001		-0.006		0.001
		(0.003)		(0.006)		(0.003)
Unempl. Average		-0.002		-0.002		-0.003
		(0.003)		(0.007)		(0.003)
Academ. App.		-0.227***		-0.199		-0.050
		(0.078)		(0.203)		(0.107)
Rural Commune		-0.193***				
		(0.066)				
Urban-Rural Comm.		-0.278***				
		(0.060)				
Population (Log.)				0.282***		0.033
				(0.066)		(0.034)
Constant	1.348***	-1.879***	1.695***	-3.140**	0.899***	0.155
	(0.028)	(0.537)	(0.071)	(1.452)	(0.035)	(0.754)
Observations	661	539	564	540	574	540
R <sup>2</sup>	0.038	0.277	0.024	0.195		
Adjusted R <sup>2</sup>	0.033	0.262	0.019	0.180		

Note: OLS,  
Q.-Poiss.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



### 6.2.11 Additional Analysis: Imperial Legacies in Other Dimensions

In this dissertation, my theoretical contribution focuses on institutions of the public administration, and I do not provide arguments for imperial legacies in terms of development levels, population structures, or economic performance. However, the inclusion of covariates can potentially lead to post-treatment bias.

Considering the possibility of post-treatment bias, an assessment of legacies in other fields than the institutions of the public administration would be desirable. Table 6.14 provides such an assessment.

While there are no statistically significant differences between the partitions in terms of tax revenues per capita, we do observe such differences in terms of population density and the unemployment average. Together with other studies of imperial legacies in Poland, these results highlight that there likely are multiple treatment effects of past imperial rule. This indicates that the inclusion of covariates could cause post-treatment bias. As a response to this possibility (and the possibility of spillover in the immediate vicinity of the imperial borders), I have conducted an analysis based on matched observations. This analysis can be found in the main body of the chapter (section 3.6).

**Table 6.14:** Imperial Legacies in Other Fields

	<i>Dependent variable:</i>		
	Revenues PC (Log.)	Pop. Density (Log.)	Unempl. Average
	(1)	(2)	(3)
Austria	-0.029 (0.027)	0.313** (0.145)	1.166* (0.651)
Russia	0.008 (0.021)	-0.299*** (0.114)	1.777*** (0.508)
Interwar Germany	0.036 (0.024)	-0.365*** (0.127)	3.794*** (0.566)
City Powiat	0.305*** (0.038)	2.748*** (0.201)	-3.699*** (0.902)
Constant	8.050*** (0.018)	4.648*** (0.095)	11.863*** (0.426)
Observations	673	673	682
R <sup>2</sup>	0.096	0.256	0.089
Adjusted R <sup>2</sup>	0.090	0.252	0.084

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

## 6.2.12 Prussia/Russia Comparison: Additional Analyses

### Channels of Advertisement

In the results section (section 3.5), I discuss samples comparing formerly Prussian to formerly Russian communes. Some results were omitted from this discussion and are displayed here. In this respect, Table 6.15 shows the results for the ‘channels of advertisement’ as the dependent variable (for the full sample).

**Table 6.15:** Prussia/Russia Comparison: Full Sample (Channels of Advertisement)

	<i>Dependent variable:</i>			
	Advert. Channels			
	Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)
Russia	-0.087 (0.059)	-0.071 (0.060)	-0.110 (0.073)	-0.060 (0.073)
Interwar Germany	-0.006 (0.054)	0.017 (0.054)	-0.040 (0.064)	0.017 (0.063)
Revenue (Log.)		0.014 (0.087)		-0.017 (0.089)
Pop. Dens. (Log.)		0.044** (0.022)		0.050** (0.023)
Powiat-Level City		-0.035 (0.103)		0.010 (0.104)
Avg. Migr.		0.001 (0.003)		0.001 (0.003)
Unempl. Avg.		-0.002 (0.004)		-0.006 (0.004)
Academ. App.		-0.065 (0.097)		-0.084 (0.097)
Population (Log.)		0.033 (0.038)		0.023 (0.039)
Dist.	0.0003 (0.0004)	0.0002 (0.0004)	-0.003 (0.002)	-0.002 (0.002)
Dist. * Russia	-0.001 (0.001)	-0.0002 (0.001)	0.003 (0.002)	0.002 (0.002)
Constant	0.912*** (0.041)	0.355 (0.804)	-1,031.856 (1,857.684)	-750.492 (1,816.288)
Observations	495	465	495	465

Note: Q.-Poiss.

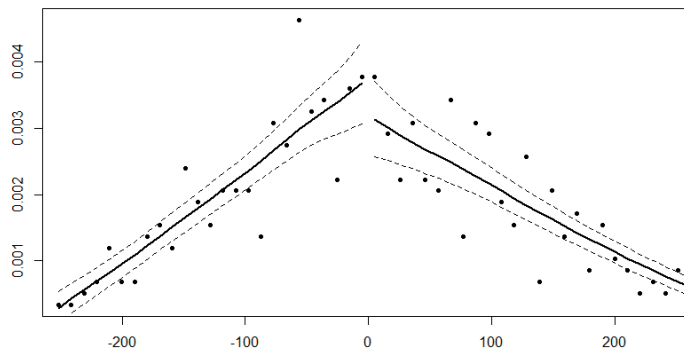
\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Density Tests at the Threshold

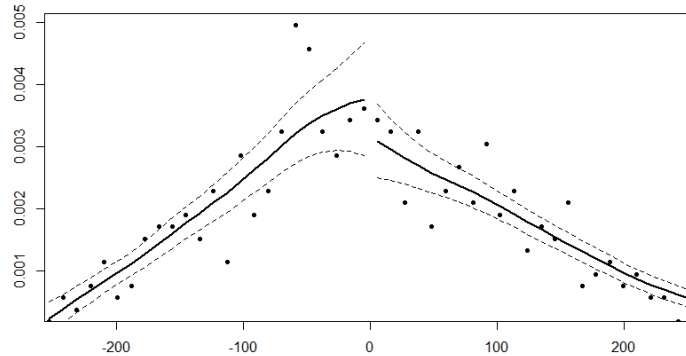
If there is systematic sorting at the threshold (such as self-selection into survey response), it would pose problems for my analysis. Thus, I have conducted multiple density tests based on McCrary (2008). These density tests allow me to identify if there are significant differences in density at the regression discontinuity. All of these density tests have failed to reject the null hypothesis that the density is continuous around the threshold (at levels of  $\alpha = 0.1$ ). Accordingly, I do not have evidence for sorting around the threshold.

Figure 6.5, Figure 6.6, and Figure 6.7 show the density around the threshold for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively.

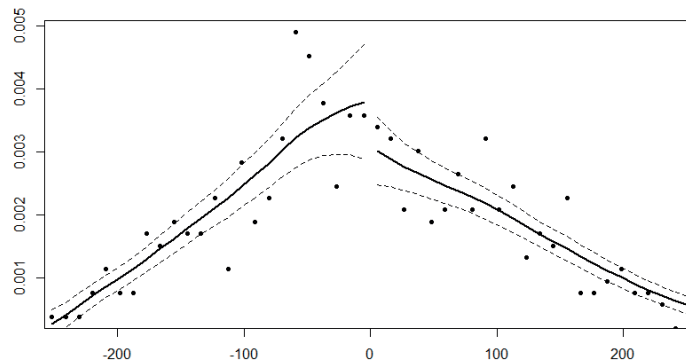
**Figure 6.5:** Prussia/Russia Comparison: Density Test (Employees per 1,000 Inhabitants)



**Figure 6.6:** Prussia/Russia Comparison: Density Test (Applicants per Job)



**Figure 6.7:** Prussia/Russia Comparison: Density Test (Channels of Advertisement)



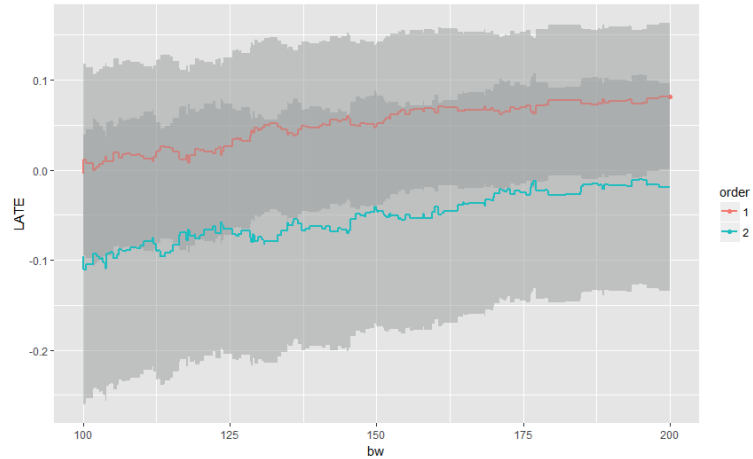
### Sensitivity Tests

The properties of the regressions and the samples I use may have an impact on the results. Thus, I conduct multiple sensitivity tests, based on OLS regression, including second-order polynomials, to investigate the sensitivity to different bandwidths and specifications. The results indicate that most relationships I observe do not change substantially across different specifications, even though I cannot always reject the null hypothesis at  $\alpha = 0.1$ .

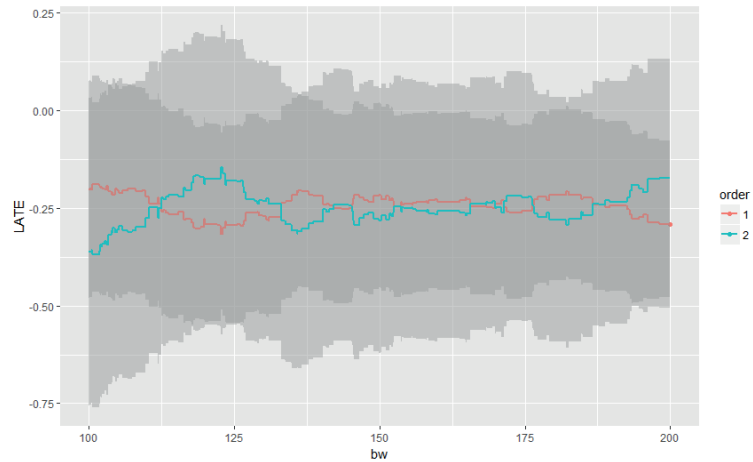
Figure 6.8, Figure 6.9, and Figure 6.10 show to what extent the results of my

border sample analyses are sensitive to the bandwidth and specification I choose (for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively). These graphs include 90% confidence intervals.

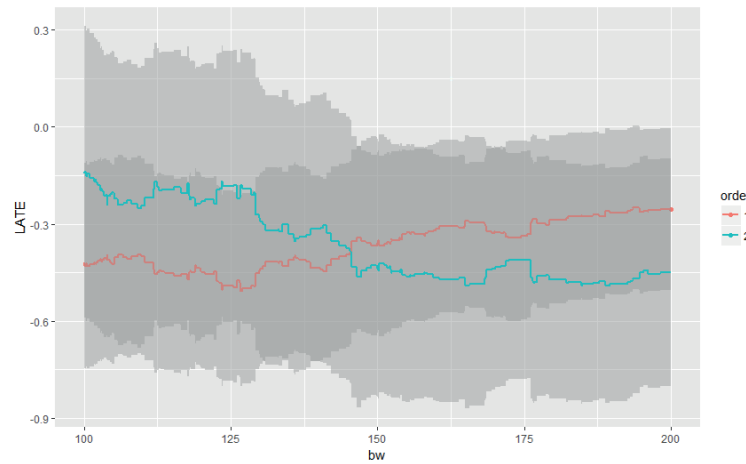
**Figure 6.8:** Prussia/Russia Comparison: Sensitivity Test (Employees per 1,000 Inhabitants)



**Figure 6.9:** Prussia/Russia Comparison: Sensitivity Test (Applicants per Job)



**Figure 6.10:** Prussia/Russia Comparison: Sensitivity Test (Channels of Advertisement)

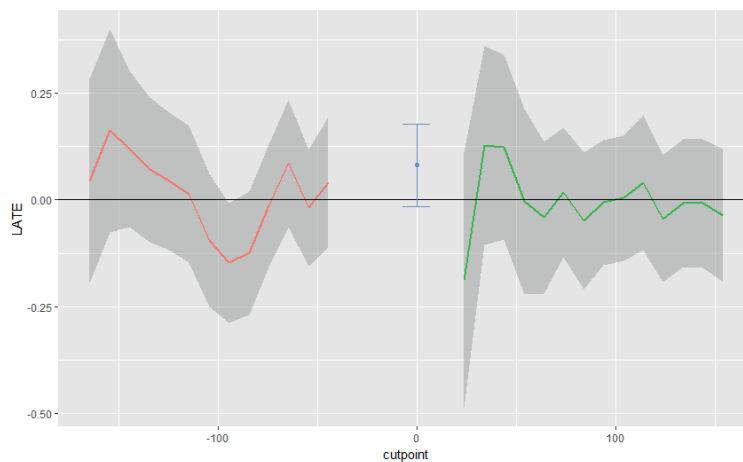


### Placebo Tests

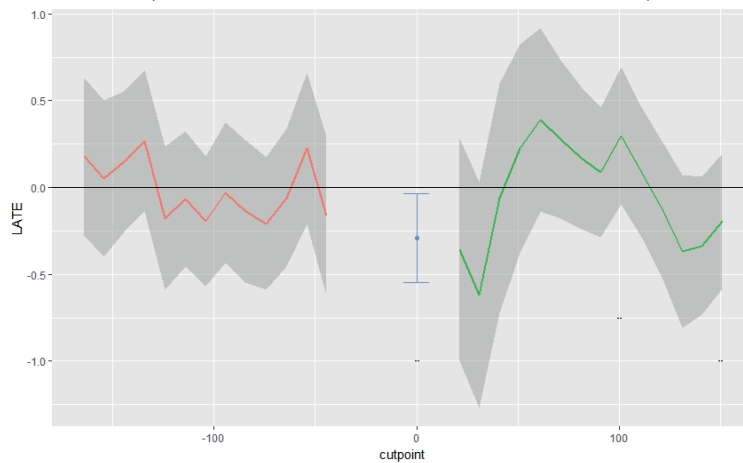
It is possible that regression discontinuity designs discover random differences across the threshold and mistakenly attribute them to the treatment. For instance, if within-country variation at multiple artificial boundaries is high, the risks for wrongly identifying systematic differences increase. Therefore, in order to check if arbitrarily placed thresholds would yield similar results, I conduct a large number of placebo tests based on linear models.

Figure 6.11, Figure 6.12, and Figure 6.13 show the results of randomly assigning placebo thresholds (for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively). The graphs show that most randomly assigned borders do not generate significant results when running regressions there. Thus, the confidence in the results is strengthened.

**Figure 6.11:** Prussia/Russia Comparison: Placebo Test (Employees per 1,000 Inhabitants)

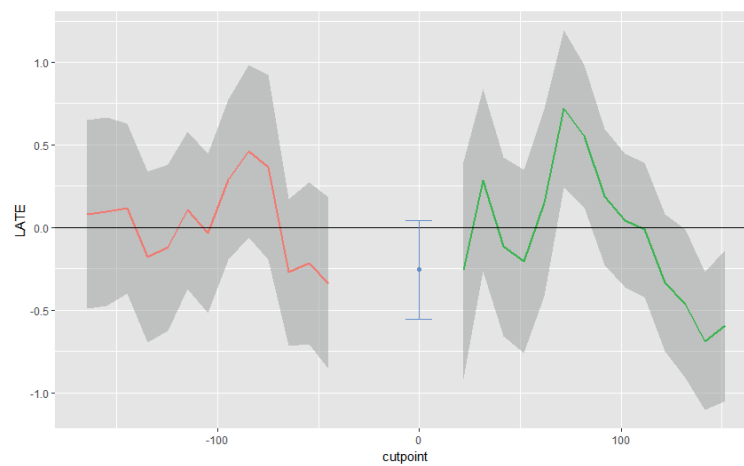


**Figure 6.12:** Prussia/Russia Comparison: Placebo Test (Applicants per Job)





**Figure 6.13:** Prussia/Russia Comparison: Placebo Test (Channels of Advertisement)



## Further Graphs

Figure 6.14, Figure 6.15, and Figure 6.16 show quadratic regressions at the optimal bandwidth. As in the previous graphs shown in the main body of the chapter (section 3.6), communes that historically belonged to Interwar Germany were removed as they have to be treated separately. The graphs based on quadratic regressions show results that are similar to the linear models. However, some of the observed confidence intervals display higher levels of overlap.

**Figure 6.14:** Prussia/Russia Comparison: Employees per 1,000 Inhabitants (Log.)

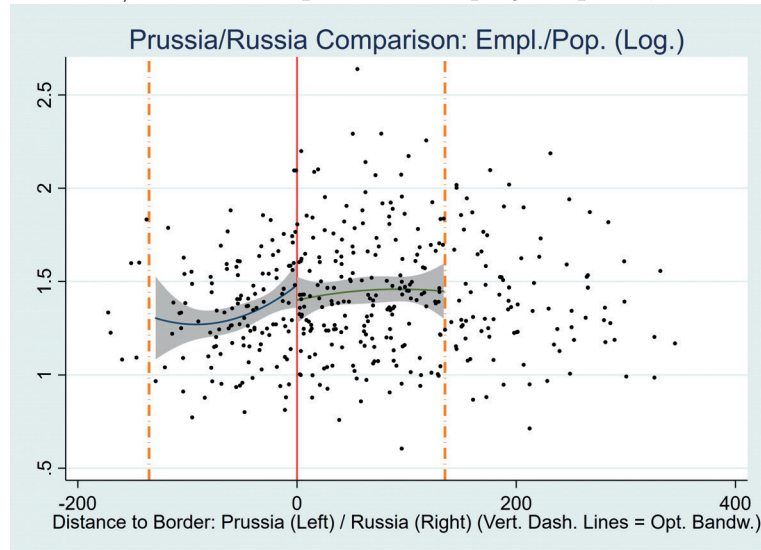


Figure 6.15: Prussia/Russia Comparison: Applicants per Job (Log.)

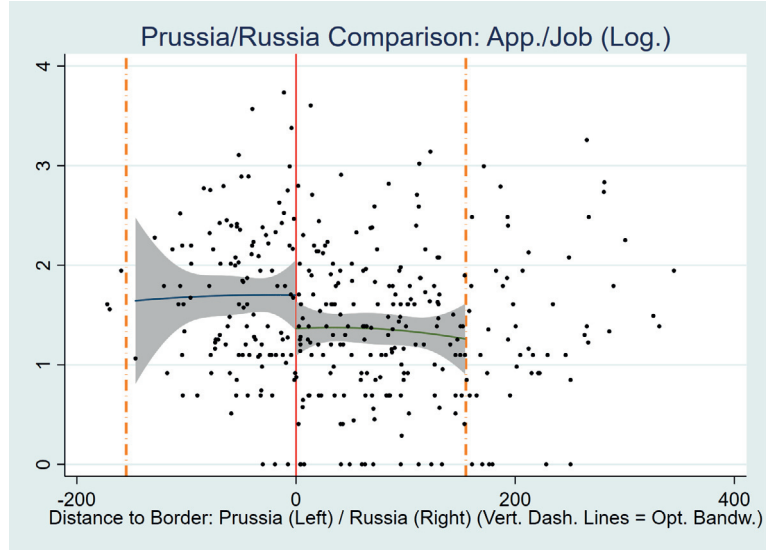
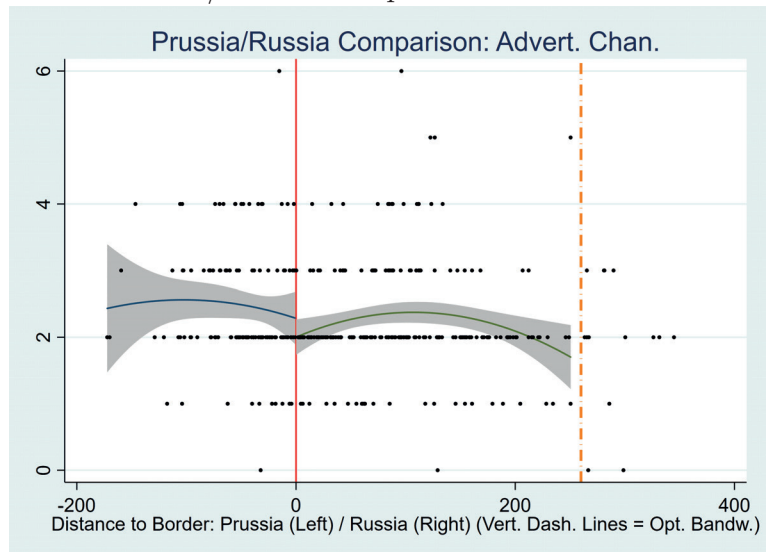


Figure 6.16: Prussia/Russia Comparison: Channels of Advertisement



## 6.2.13 Austria/Russia Comparison: Additional Analyses

### Channels of Advertisement

In the section on the empirical test (section 3.5), I discuss samples comparing formerly Austrian to formerly Russian communes. Some results were omitted from this discussion and are shown here. In this respect, Table 6.16 shows the results for the ‘channels of advertisement’ as the dependent variable (for the full sample).

**Table 6.16:** Austria/Russia Comparison: Full Sample (Channels of Advertisement)

	<i>Dependent variable:</i>			
	Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)
Russia	-0.169*	-0.071	-0.211**	-0.062
	(0.098)	(0.095)	(0.107)	(0.105)
Revenue (Log.)		0.002		-0.004
		(0.096)		(0.097)
Pop. Dens. (Log.)		0.076**		0.072**
		(0.030)		(0.030)
Powiat-Level City		0.146		0.138
		(0.137)		(0.138)
Avg. Migr.		0.003		0.003
		(0.004)		(0.004)
Unempl. Avg.		-0.016***		-0.014**
		(0.005)		(0.006)
Academ. App.		0.366		0.372
		(0.313)		(0.310)
Population (Log.)		-0.035		-0.026
		(0.049)		(0.049)
Dist.	0.001	0.0002	0.010***	0.008**
	(0.002)	(0.002)	(0.004)	(0.003)
Dist. * Russia	-0.001	0.0004	-0.008**	-0.005
	(0.002)	(0.002)	(0.004)	(0.003)
Constant	0.879***	0.595	11,801.900***	8,544.483**
	(0.083)	(0.957)	(3,946.198)	(3,901.156)
Observations	312	292	312	292

Note: Q.-Pois.

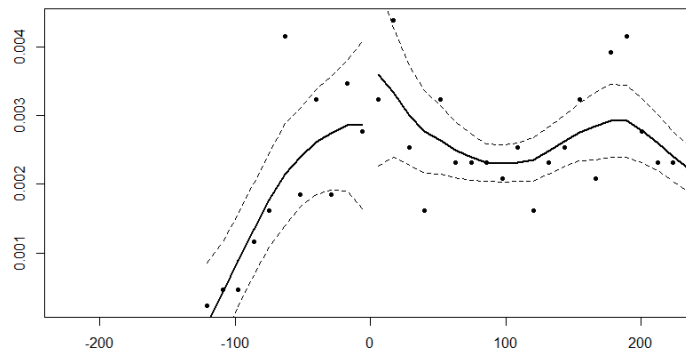
\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Density Tests at the Threshold

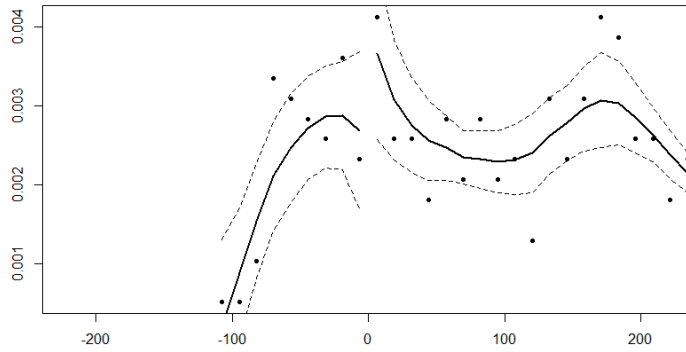
As for the Prussia/Russia comparison, I have conducted multiple density tests based on McCrary (2008). All of these density tests have failed to reject the null hypothesis that the density is continuous around the threshold (at levels of  $\alpha = 0.1$ ). Accordingly, I do not have evidence for sorting around the threshold.

Figure 6.17, Figure 6.18, and Figure 6.19 show the density around the threshold for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively.

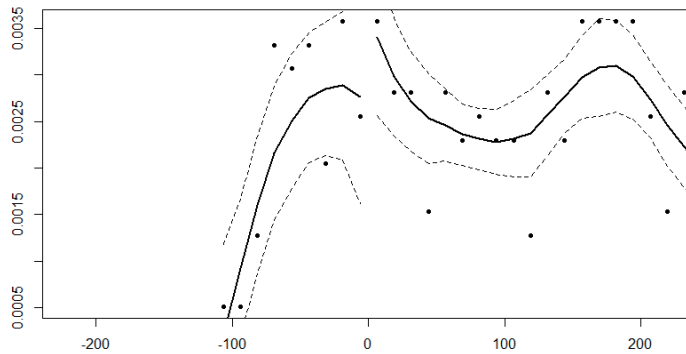
**Figure 6.17:** Austria/Russia Comparison: Density Test (Employees per 1,000 Inhabitants)



**Figure 6.18:** Austria/Russia Comparison: Density Test (Applicants per Job)



**Figure 6.19:** Austria/Russia Comparison: Density Test (Channels of Advertisement)



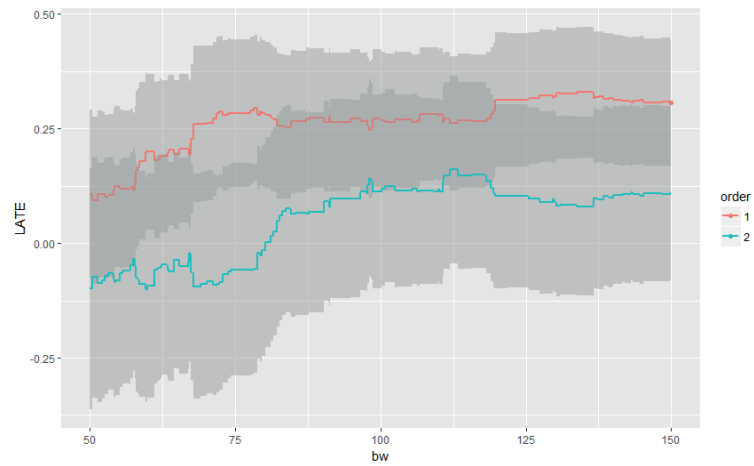
### Sensitivity Tests

As for the Prussia/Russia comparison, I conduct multiple sensitivity tests to investigate the sensitivity to different bandwidths and specifications. The results indicate that most relationships I observe do not change substantially across different specifications, even though I cannot always reject the null hypothesis at  $\alpha = 0.1$ .

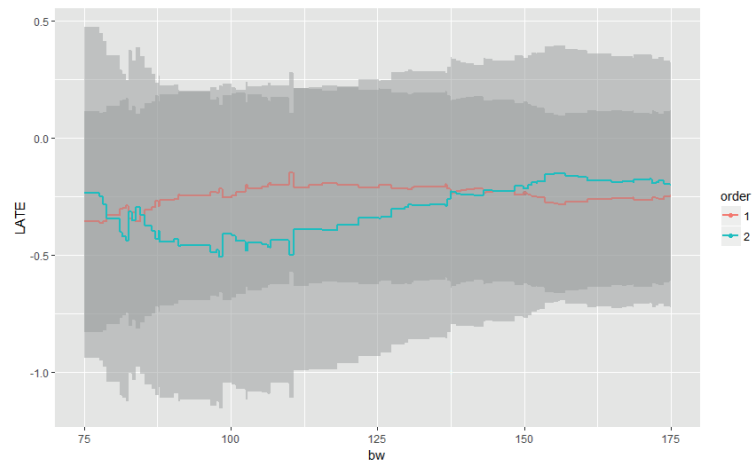
Figure 6.20, Figure 6.21, and Figure 6.22 show to what extent the results of the border sample analysis are sensitive to the bandwidth and specification I choose (for

the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively). These graphs include 90% confidence intervals.

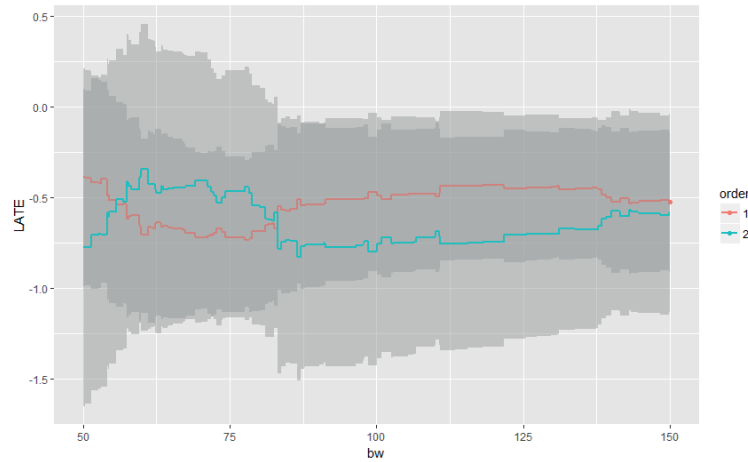
**Figure 6.20:** Austria/Russia Comparison: Sensitivity Test (Employees per 1,000 Inhabitants)



**Figure 6.21:** Austria/Russia Comparison: Sensitivity Test (Applicants per Job)



**Figure 6.22:** Austria/Russia Comparison: Sensitivity Test (Channels of Advertisement)



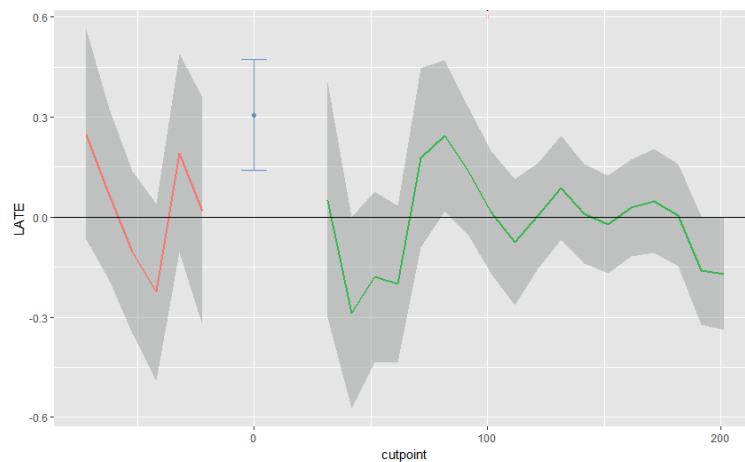
### Placebo Tests

As for the Prussia/Russia comparison, in order to check if arbitrarily placed thresholds would yield similar results, I conduct a large number of placebo tests.

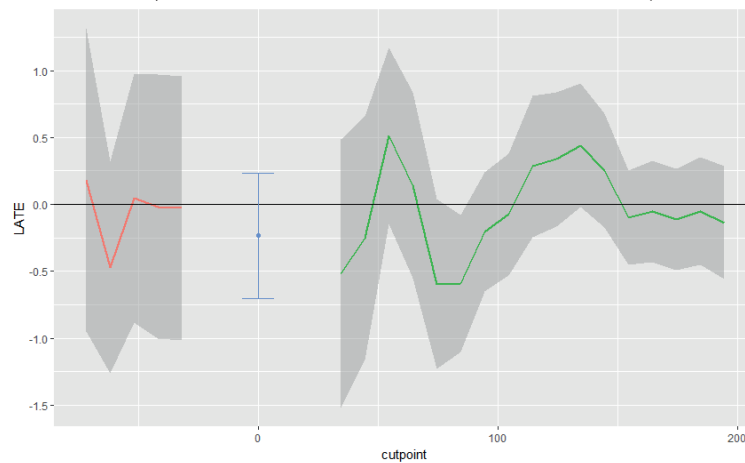
Figure 6.23, Figure 6.24, and Figure 6.25 show the results of randomly assigning placebo thresholds (for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively). The graphs show that most randomly assigned borders do not generate significant results when running the same type of regression there.



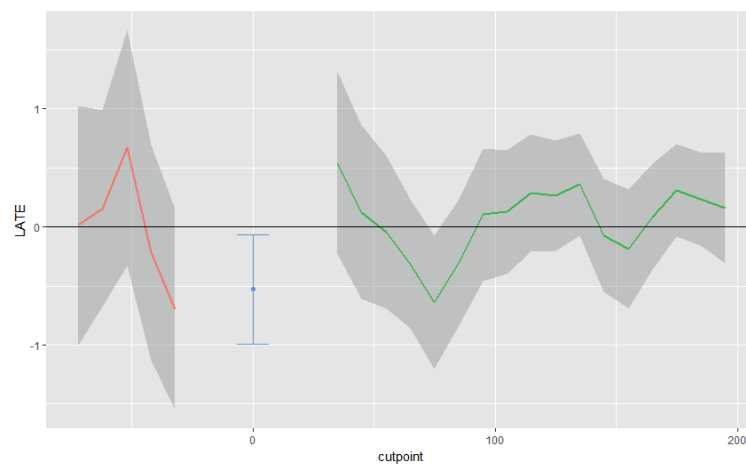
**Figure 6.23:** Austria/Russia Comparison: Placebo Test (Employees per 1,000 Inhabitants)



**Figure 6.24:** Austria/Russia Comparison: Placebo Test (Applicants per Job)



**Figure 6.25:** Austria/Russia Comparison: Placebo Test (Channels of Advertisement)



## Further Graphs

Figure 6.26, Figure 6.27, Figure 6.28, and Figure 6.29 show the geographic discontinuities in terms of the relative number of applicants and the number of advertisement channels, respectively.

Furthermore, Figure 6.30, Figure 6.31, and Figure 6.32 show the geographic discontinuities when using a quadratic regression. These graphs indicate the possibility of convergence in bureaucratic organization in the immediate vicinity of the historical borders (especially with respect to employees/population), which may be caused by spillover effects. In the empirical results section of the chapter (subsection 3.6.11), I discuss this problem and matching as a possible alternative empirical test.

**Figure 6.26:** Austria/Russia Comparison: Applicants per Job (Log.)

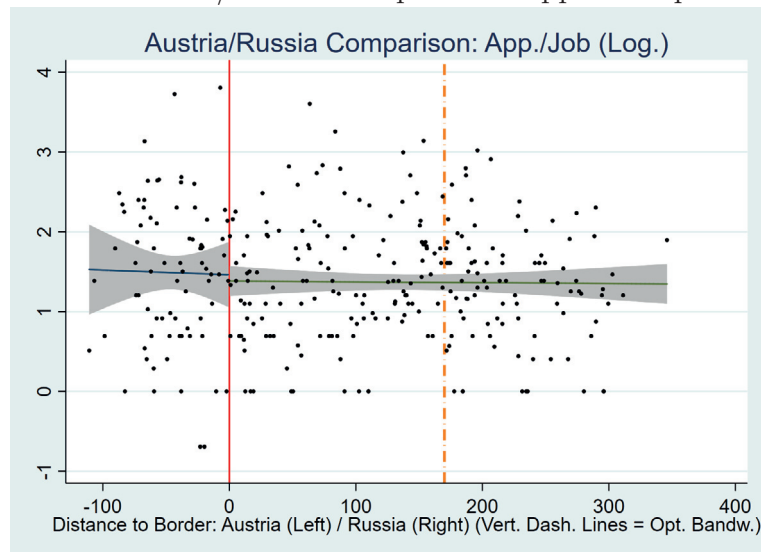


Figure 6.27: Austria/Russia Comparison: Applicants per Job (Log.)

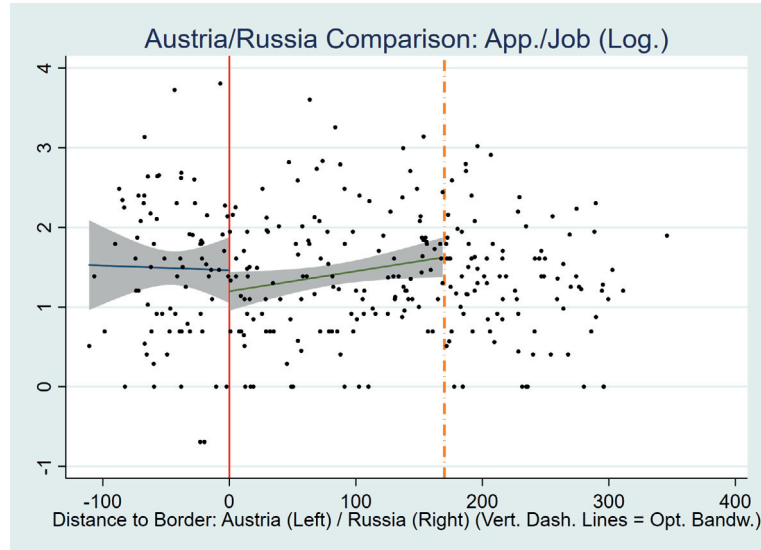


Figure 6.28: Austria/Russia Comparison: Channels of Advertisement

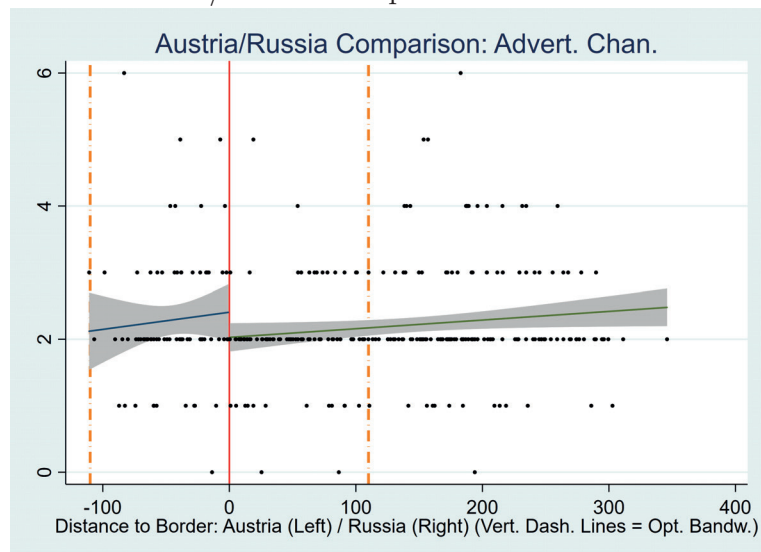


Figure 6.29: Austria/Russia Comparison: Channels of Advertisement

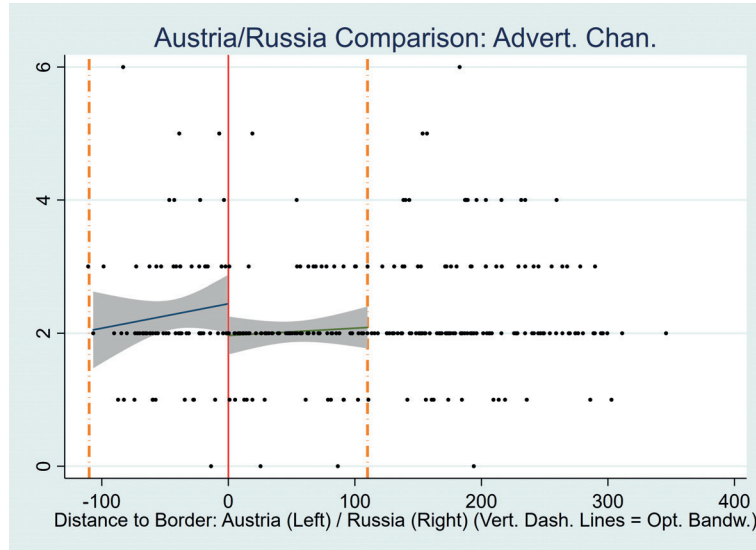


Figure 6.30: Austria/Russia Comparison: Employees per 1,000 Inhabitants (Log.)

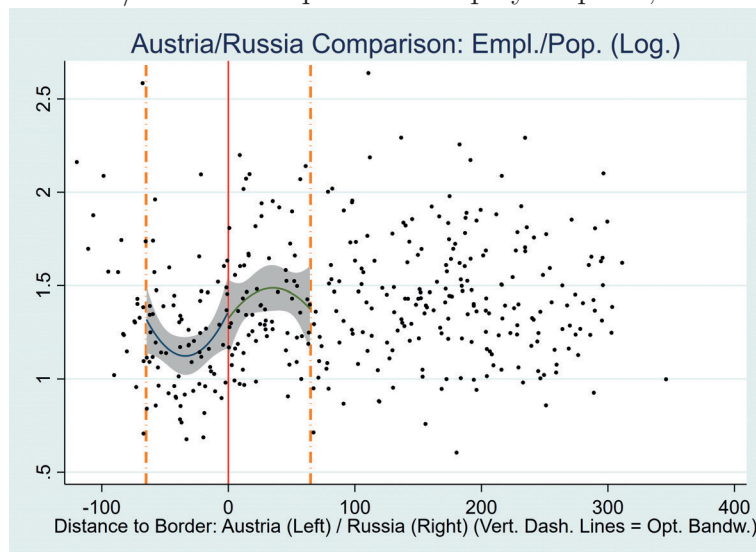


Figure 6.31: Austria/Russia Comparison: Applicants per Job (Log.)

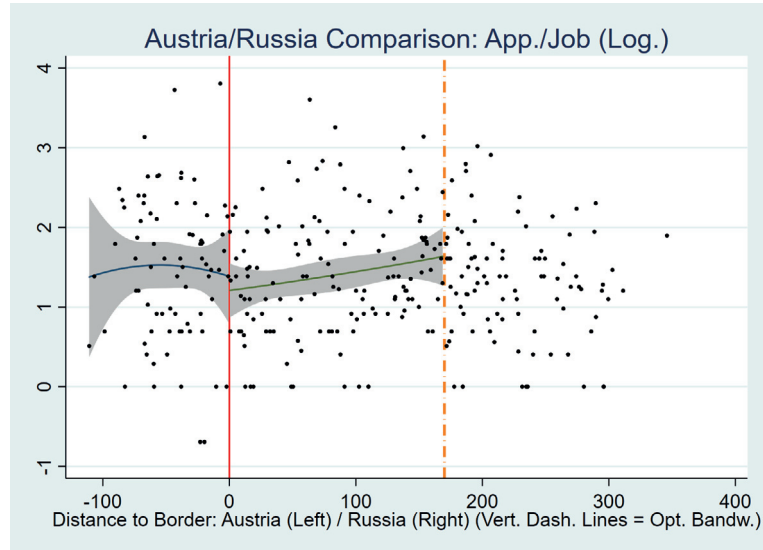
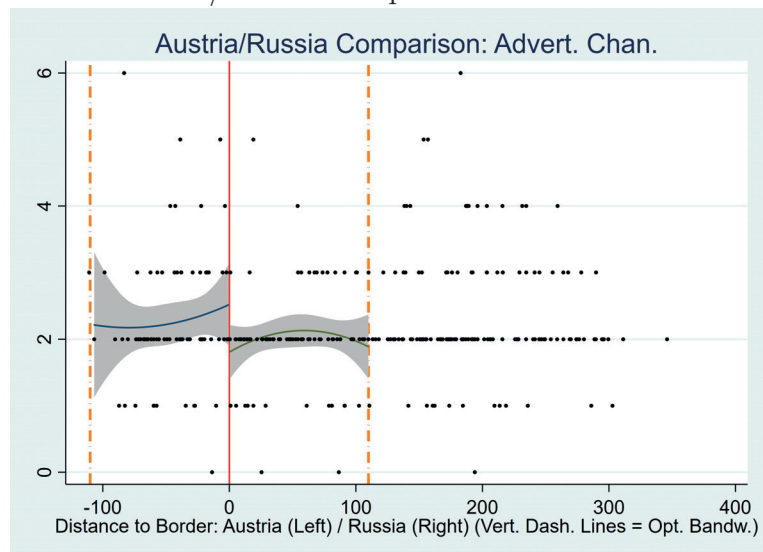


Figure 6.32: Austria/Russia Comparison: Channels of Advertisement



## 6.2.14 Prussia/Austria Comparison: Additional Analyses

### Channels of Advertisement

In the results section (section 3.5), I discuss samples comparing formerly Prussian to formerly Austrian communes. Some results were omitted from this discussion and are shown here. In this respect, Table 6.17 shows the results for the ‘channels of advertisement’ as the dependent variable (for the full sample). No significant differences between formerly Prussian and formerly Austrian communes appear to exist in this dimension of bureaucratic organization.

**Table 6.17:** Prussia/Austria Comparison: Full Sample (Channels of Advertisement)

	<i>Dependent variable:</i>			
	Advert. Channels			
	Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)
Austria	0.026 (0.101)	0.024 (0.100)	0.115 (0.125)	0.127 (0.122)
Interwar Germany	-0.025 (0.049)	-0.008 (0.050)	0.019 (0.064)	0.037 (0.066)
Revenue (Log.)		0.004 (0.143)		-0.003 (0.152)
Pop. Dens. (Log.)		0.039 (0.026)		0.028 (0.027)
Powiat-Level City		-0.005 (0.125)		-0.033 (0.128)
Avg. Migr.		-0.002 (0.005)		-0.0001 (0.005)
Unempl. Avg.		0.0002 (0.005)		-0.001 (0.005)
Academ. App.		-0.091 (0.107)		-0.115 (0.108)
Population (Log.)		0.057 (0.042)		0.069 (0.042)
Dist.	-0.0001 (0.0002)	-0.0002 (0.0002)	-0.001 (0.002)	-0.002 (0.002)
Dist. * Austria	-0.0004 (0.001)	-0.00001 (0.001)	-0.006* (0.003)	-0.004 (0.003)
Constant	0.874*** (0.056)	0.161 (1.272)	-2,943.163 (2,078.871)	-1,941.837 (2,142.710)
Observations	341	323	341	323

Note: Q.-Pois.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



## Border Samples

Table 6.18 and Table 6.19 show the border samples in terms of the relative number of applicants and the number of advertisement channels, respectively.

**Table 6.18:** Prussia/Austria Comparison: Border Sample RD (Applicants per Job)

	<i>Dependent variable:</i>					
	App./Job (Log.)					
	< 100 km	< 125 km	< 150 km	< 175 km	< 200 km	< 291 km
	(1)	(2)	(3)	(4)	(5)	(6)
Austria	0.168 (0.319)	-0.074 (0.298)	-0.085 (0.287)	-0.144 (0.274)	-0.253 (0.276)	-0.226 (0.250)
Interwar Germany	-0.963** (0.365)	-0.764** (0.351)	-0.816** (0.335)	-0.501* (0.292)	-0.708*** (0.259)	-0.377** (0.161)
Dist.	-0.011* (0.006)	-0.004 (0.005)	-0.005 (0.003)	-0.001 (0.003)	-0.003 (0.002)	-0.0002 (0.001)
Dist. * Austria	0.003 (0.008)	-0.001 (0.006)	0.002 (0.004)	-0.001 (0.003)	0.002 (0.003)	-0.001 (0.002)
Constant	1.689*** (0.202)	1.836*** (0.190)	1.811*** (0.183)	1.832*** (0.177)	1.857*** (0.181)	1.830*** (0.166)
Observations	74	86	105	123	140	192
R <sup>2</sup>	0.125	0.093	0.078	0.048	0.057	0.038

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 6.19:** Prussia/Austria Comparison: Border Sample RD (Channels of Advertisement)

	<i>Dependent variable:</i>					
	Advert. Channels					
	< 100 km (1)	< 125 km (2)	< 150 km (3)	< 175 km (4)	< 200 km (5)	< 257 km (6)
Austria	0.058 (0.139)	0.074 (0.125)	0.094 (0.114)	0.076 (0.106)	0.099 (0.102)	-0.0003 (0.111)
Interwar Germany	-0.162 (0.162)	-0.123 (0.151)	0.015 (0.123)	0.038 (0.109)	-0.008 (0.094)	-0.063 (0.082)
Dist.	-0.003 (0.003)	-0.002 (0.002)	0.0004 (0.001)	0.001 (0.001)	-0.00001 (0.001)	-0.0002 (0.001)
Dist. * Austria	0.003 (0.003)	0.001 (0.002)	-0.002 (0.002)	-0.002* (0.001)	-0.002* (0.001)	-0.0003 (0.001)
Constant	0.856*** (0.090)	0.879*** (0.080)	0.894*** (0.074)	0.902*** (0.070)	0.881*** (0.068)	0.896*** (0.074)
Observations	75	88	108	126	144	177

Note: Q.-Poiss.

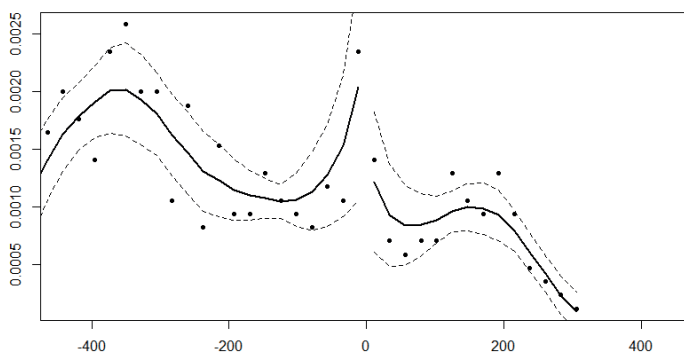
\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### Density Tests at the Threshold

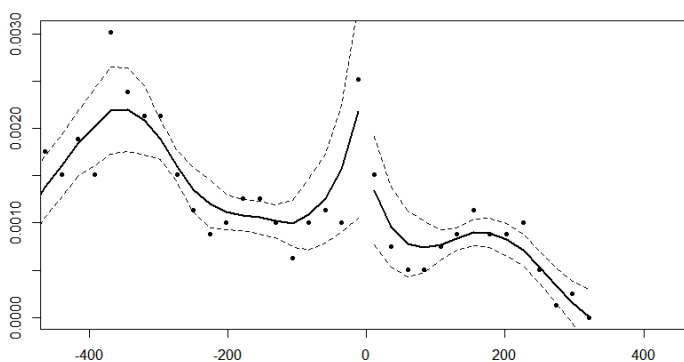
As for the previous two comparisons, I have conducted multiple density tests based on McCrary (2008). All of these density tests have failed to reject the null hypothesis that the density is continuous around the threshold (at levels of  $\alpha = 0.1$ ). Accordingly, I do not have evidence for sorting around the threshold.

Figure 6.33, Figure 6.34, and Figure 6.35 show the density around the threshold for the relative number of employees, the relative number of applicants, and the number of channels of advertisement respectively.

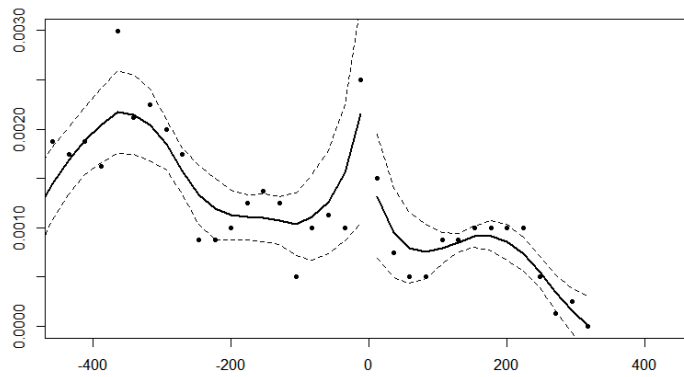
**Figure 6.33:** Prussia/Austria Comparison: Density Test (Employees per 1,000 Inhabitants)



**Figure 6.34:** Prussia/Austria Comparison: Density Test (Applicants per Job)



**Figure 6.35:** Prussia/Austria Comparison: Density Test (Channels of Advertisement)

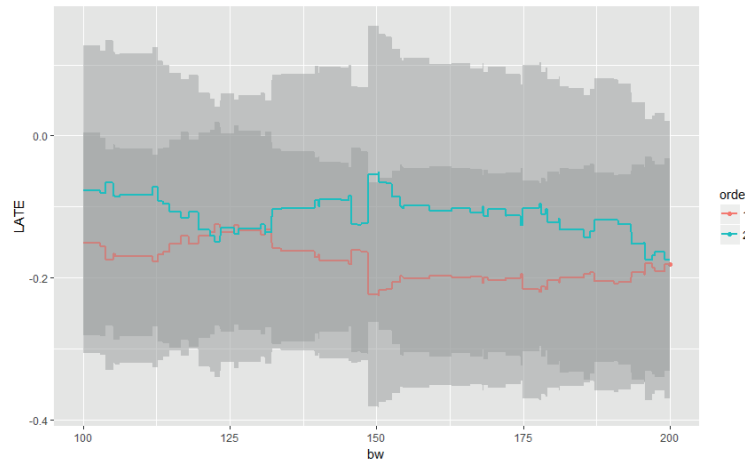


## Sensitivity Tests

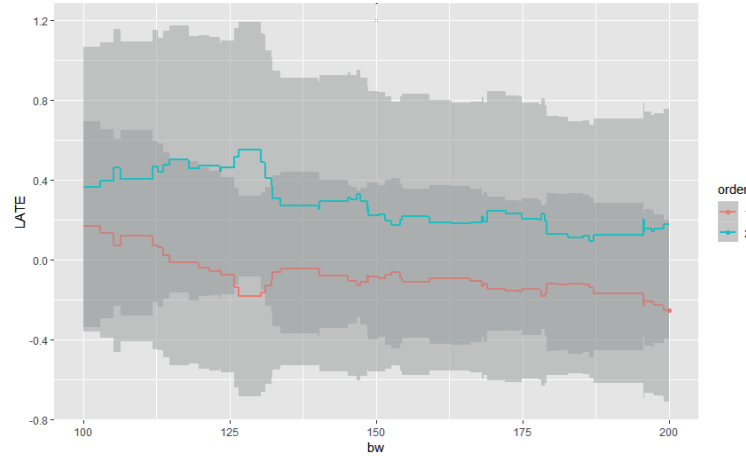
As for the previous comparisons, I conduct multiple sensitivity tests to investigate the sensitivity to different bandwidths and specifications. The results indicate that the relationships I observe do not change substantially across different specifications, even though I cannot always reject the null hypothesis at  $\alpha = 0.05$ .

Figure 6.20, Figure 6.21, and Figure 6.22 show to what extent the results of the border sample analyses are sensitive to the bandwidth and specification I choose (for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively). These graphs include 90% confidence intervals.

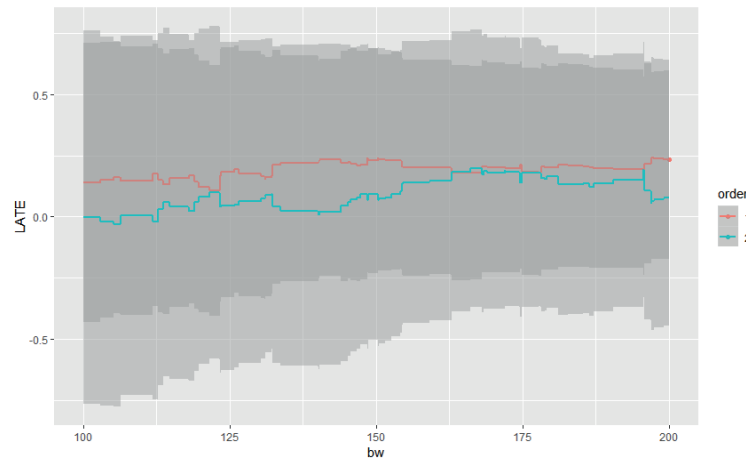
**Figure 6.36:** Prussia/Austria Comparison: Sensitivity Test (Employees per 1,000 Inhabitants)



**Figure 6.37:** Prussia/Austria Comparison: Sensitivity Test (Applicants per Job)



**Figure 6.38:** Prussia/Austria Comparison: Sensitivity Test (Channels of Advertisement)



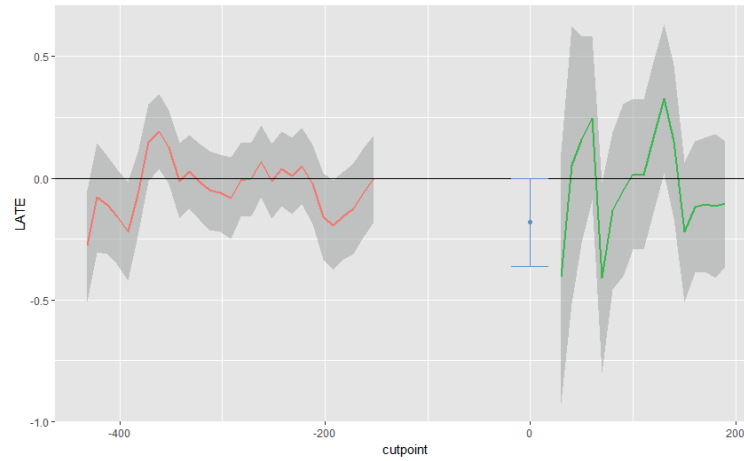
### Placebo Tests

As for the Prussia/Russia comparison, in order to check if arbitrarily placed thresholds would yield similar results, I conduct a large number of placebo tests.

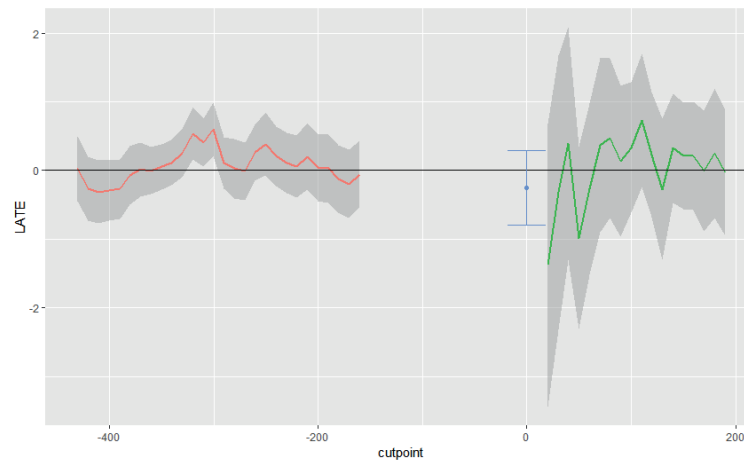
Figure 6.39, Figure 6.40, and Figure 6.41 show the results of randomly assigning placebo thresholds (for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively). The graphs show that most randomly assigned borders do not generate significant results when

running the same type of regression there.

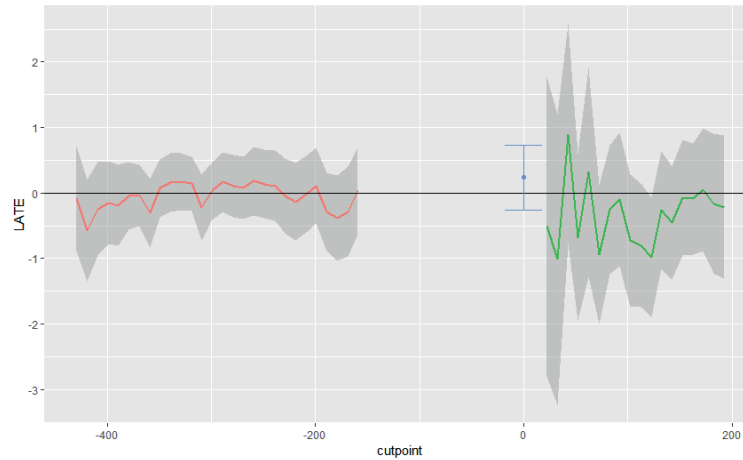
**Figure 6.39:** Prussia/Austria Comparison: Placebo Test (Employees per 1,000 Inhabitants)



**Figure 6.40:** Prussia/Austria Comparison: Placebo Test (Applicants per Job)



**Figure 6.41:** Prussia/Austria Comparison: Placebo Test (Channels of Advertisement)



### Further Graphs

Figure 6.42, Figure 6.43, Figure 6.44, and Figure 6.45 show the geographic discontinuities in terms of the relative number of applicants and the number of advertisement channels, respectively.

Furthermore, Figure 6.46, Figure 6.47, and Figure 6.48 show the geographic discontinuities when using a quadratic regression. These graphs indicate the possibility of convergence in bureaucratic organization in the immediate vicinity of the historical borders, which may be caused by spillover effects. In the empirical results section of the chapter (subsection 3.6.11), I discuss this problem and matching as a possible alternative empirical test.



Figure 6.42: Prussia/Austria Comparison: Applicants per Job (Log.)

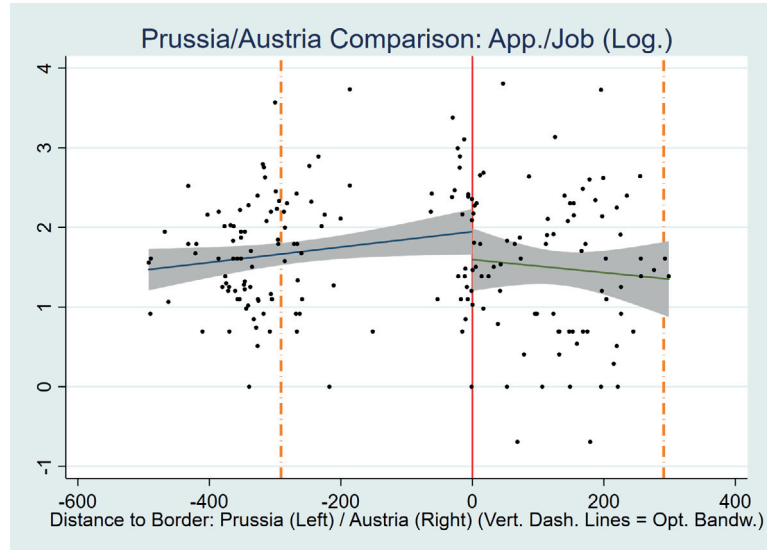


Figure 6.43: Prussia/Austria Comparison: Applicants per Job (Log.)

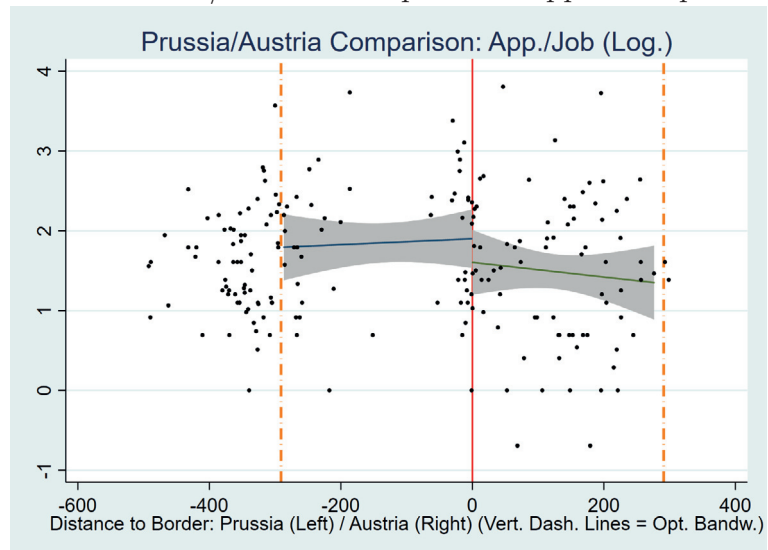


Figure 6.44: Prussia/Austria Comparison: Channels of Advertisement

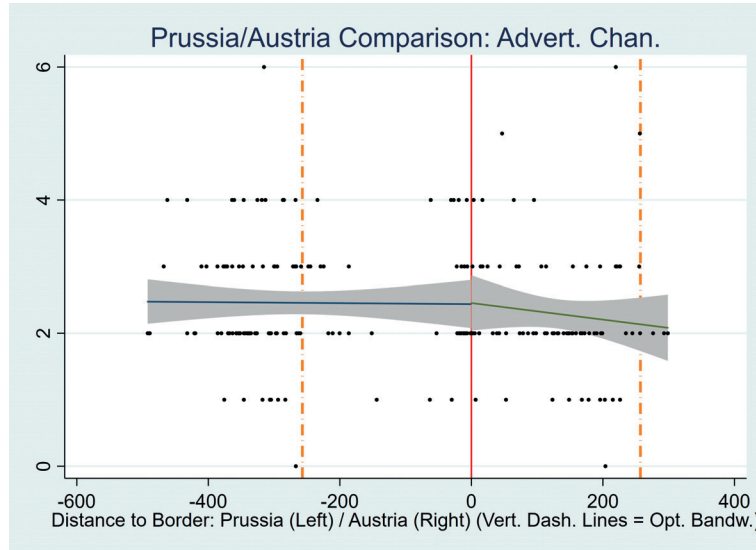
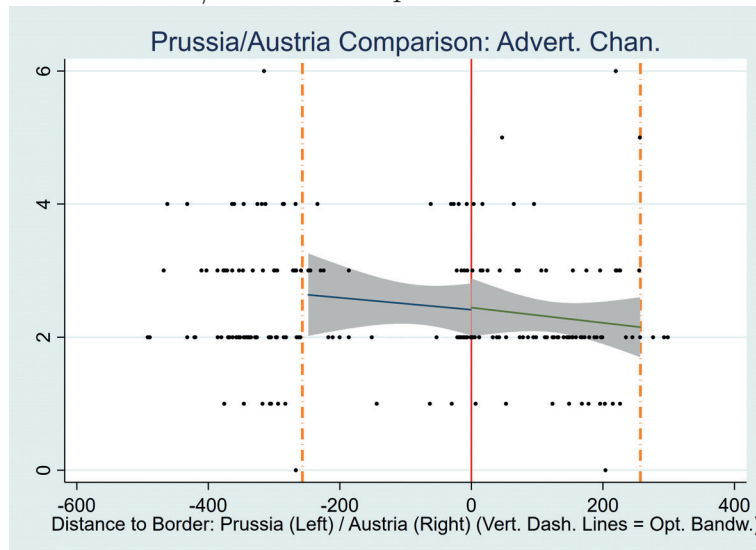
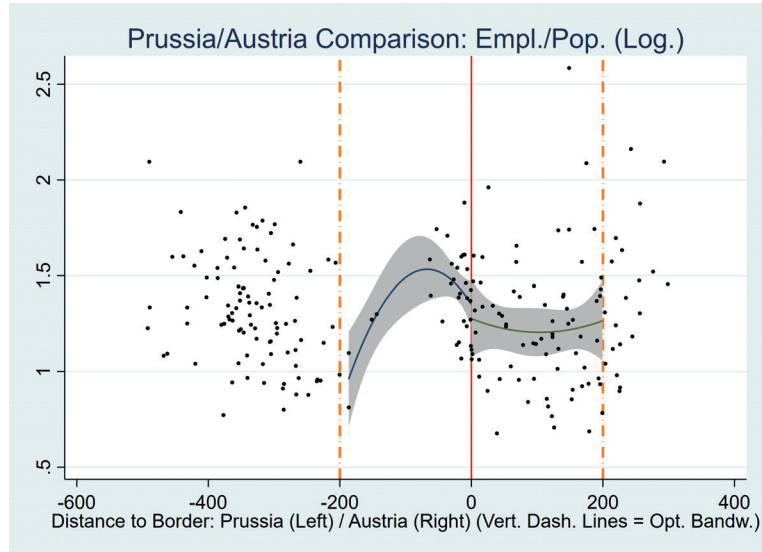


Figure 6.45: Prussia/Austria Comparison: Channels of Advertisement



**Figure 6.46:** Prussia/Austria Comparison: Employees per 1,000 Inhabitants (Log.)



**Figure 6.47:** Prussia/Austria Comparison: Applicants per Job (Log.)

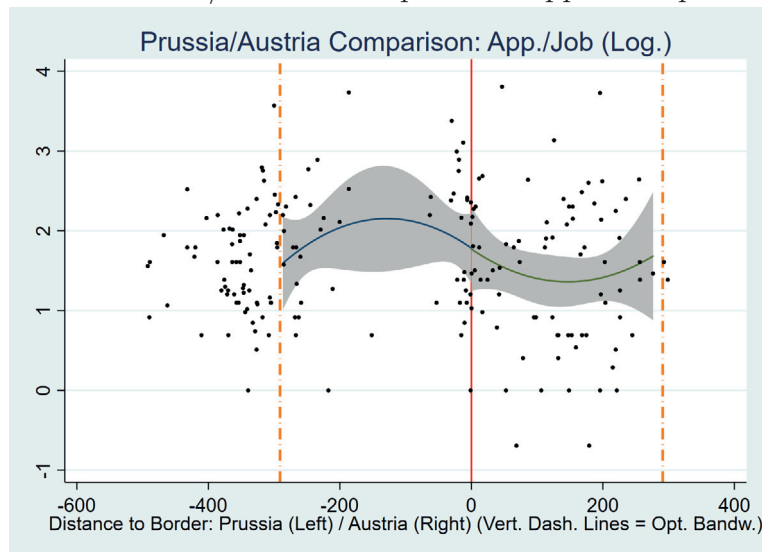
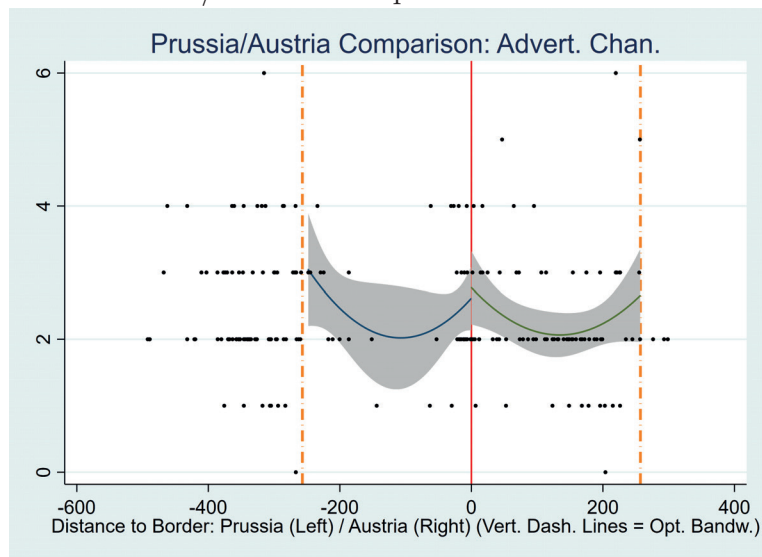


Figure 6.48: Prussia/Austria Comparison: Channels of Advertisement



### 6.2.15 Extension 1: Analysis of Variations Within Present-Day Voivodeships

It is possible that the differences observed across the imperial boundaries are partly driven by heterogeneity in administrative conditions among present-day voivodeships. In order to address this concern, I present a new set of analyses below. For the first set of regressions, I have restricted the data to three present-day voivodeships that were divided by past imperial boundaries between Russia and Prussia (Kujawsko-Pomorskie, Slaskie, and Wielkopolskie).<sup>11</sup> I include fixed effects for each voivodeship, limiting the analysis to comparisons within these administrative units. The analysis (Table 6.20) reveals that the same trends which can be observed more generally also apply *within* existing voivodeships that are crossed by historical imperial boundaries. These results significantly strengthen the claim that imperial legacies, and not heterogeneity in the administrative organization of present-day voivodeships, are behind the regional differences.

For completeness, I include similar comparisons between Austria and Russia (Malopolskie and Slaskie) and Prussia and Austria (Slaskie). While the direction of the effect generally is in the expected direction, the substantially smaller number of observations (which is  $< 50$  in some cases) makes it difficult to obtain statistically significant results in the respective regressions (see Table 6.21 and Table 6.22).

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<sup>11</sup>For a discussion of a similar approach, see Keele and Titiunik (2015).

**Table 6.20:** Imperial Legacies Within Present-Day Voivodeships (Prussia/Russia)

	<i>Dependent variable:</i>		
	Empl./Pop. (Log.)	App./Job (Log.)	Advert. Channels
	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>
	(1)	(2)	(3)
Russia	0.065 (0.048)	-0.288** (0.140)	-0.165** (0.071)
Interwar Germany	0.070 (0.090)	-0.592** (0.245)	-0.034 (0.119)
Kujawsko-Pomorskie	1.369*** (0.040)	1.580*** (0.109)	0.888*** (0.053)
Slaskie	1.427*** (0.044)	1.774*** (0.126)	0.871*** (0.062)
Wielkopolskie	1.250*** (0.038)	1.840*** (0.110)	0.922*** (0.052)
Observations	170	155	157
R <sup>2</sup>	0.962	0.828	
Adjusted R <sup>2</sup>	0.961	0.822	

Note: OLS,  
Q.-Pois.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 6.21:** Imperial Legacies Within Present-Day Voivodeships (Austria/Russia)

	<i>Dependent variable:</i>		
	Empl./Pop. (Log.)	App./Job (Log.)	Advert. Channels
	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>
	(1)	(2)	(3)
Russia	0.121 (0.093)	-0.330 (0.271)	-0.209** (0.104)
Malopolskie	1.215*** (0.048)	1.528*** (0.149)	0.872*** (0.052)
Slaskie	1.334*** (0.085)	1.577*** (0.248)	0.880*** (0.090)
Observations	75	64	64
R <sup>2</sup>	0.946	0.733	
Adjusted R <sup>2</sup>	0.944	0.720	

Note: OLS,  
Q.-Pois.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 6.22:** Imperial Legacies Within Present-Day Voivodeships (Prussia/Austria)

	<i>Dependent variable:</i>		
	Empl./Pop. (Log.)	App./Job (Log.)	Advert. Channels
	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>
	(1)	(2)	(3)
Austria	-0.106 (0.093)	-0.274 (0.328)	0.010 (0.142)
Constant	1.470*** (0.044)	1.755*** (0.156)	0.884*** (0.068)
Observations	44	40	40
R <sup>2</sup>	0.031	0.018	
Adjusted R <sup>2</sup>	0.007	-0.008	

Note: OLS,  
Q.-Poiss.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 6.2.16 Extension 2: Considering Mayoral Political Affiliation and Regional GDP

It is possible that my results are an indirect outcome of political or economic legacies. For instance, variation in mayoral political affiliation or levels of development (because more industrialized areas are likely to have greater GDP) could contribute to divergence in bureaucratic organization. Therefore, I extend the analysis across all partitions (subsection 6.2.10) by considering mayoral political affiliation (2014) (obtained from the National Electoral Commission, *Państwowa Komisja Wyborcza*) (Charasz and Vogler, 2019) and regional GDP per capita (natural log., 2013) (Eurostat, 2017b). Mayoral political affiliation was assigned based on (1) party membership or (2) association with the electoral committee of one of the four major parties (SLD, PO, PSL, and PIS). The results (Table 6.23) show that, even when controlling for both factors, I still observe several legacy effects, particularly with respect to the number of applicants. Simultaneously, the concerns about possible post-treatment bias in specifications with covariates—as touched upon earlier—remain.

**Table 6.23:** Imperial Legacies: Comparison of All Partitions (Accounting for Mayoral Political Affiliation and GDP)

	<i>Dependent variable:</i>		
	Empl./Pop. (Log.)	App./Job (Log.)	Advert. Channels
	<i>OLS</i>	<i>OLS</i>	<i>Quasi-Poisson</i>
	(1)	(2)	(3)
Austria	-0.005 (0.043)	-0.280** (0.108)	-0.060 (0.056)
Russia	0.042 (0.033)	-0.190** (0.085)	-0.086* (0.045)
Interwar Germany	0.061* (0.037)	-0.154 (0.094)	0.023 (0.048)
Revenue (Log.)	0.508*** (0.061)	0.281* (0.158)	0.030 (0.082)
Pop. Density (Log.)	-0.099*** (0.021)	0.081* (0.042)	0.037* (0.021)
City Powiat	-0.087 (0.070)	-0.001 (0.199)	0.072 (0.096)
Avg. Migr.	-0.001 (0.003)	-0.005 (0.006)	0.001 (0.003)
Unempl. Average	-0.001 (0.003)	-0.003 (0.007)	-0.002 (0.004)
Academ. App.	-0.230*** (0.078)	-0.207 (0.204)	-0.045 (0.107)
Mayor SLD	-0.129* (0.074)	0.415** (0.194)	0.0004 (0.100)
Mayor PO	-0.049 (0.039)	0.018 (0.103)	0.028 (0.052)
Mayor PSL	-0.005 (0.035)	0.073 (0.091)	0.044 (0.048)
Mayor PIS	0.085 (0.054)	0.057 (0.141)	0.101 (0.073)
GDP (Log.)	0.131** (0.054)	-0.134 (0.140)	0.106 (0.074)
Rural Commune	-0.200*** (0.067)		
Urban-Rural Comm.	-0.280*** (0.060)		
Population (Log.)		0.259*** (0.067)	0.034 (0.035)
Constant	-3.136*** (0.732)	-1.903 (1.999)	-0.844 (1.047)
Observations	532	533	533
R <sup>2</sup>	0.293	0.194	
Adjusted R <sup>2</sup>	0.271	0.171	

Note: OLS,  
Q.-Poiss.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



### 6.2.17 Extension 3: Weighing Distance to Border

In addition to the analyses discussed in the main body of the chapter (section 3.6), I consider a geographic regression discontinuity analysis with weighted observations. In the following regressions, observations closer to the border receive the maximum weight, and there is a continuous decline in weight as observations are further away from the historical geographic discontinuities. The results (presented in Table 6.24, Table 6.25, Table 6.27, Table 6.26, Table 6.28, and Table 6.29) generally confirm the findings shown in the chapter's main empirical results section with some smaller changes to magnitude and statistical significance of key variables. However, overall, these additional results are in line with my hypotheses.

**Table 6.24:** Prussia/Russia Comparison: Full Sample (Dist. Weights)

	<i>Dependent variable:</i>							
	Empl./Pop. (Log.)				App./Job (Log.)			
	Simple Distance		Lat./Long.		Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Russia	0.132*** (0.045)	0.066 (0.043)	0.079 (0.053)	0.010 (0.051)	-0.375*** (0.116)	-0.245** (0.111)	-0.320** (0.140)	-0.171 (0.135)
Interwar Germany	0.067 (0.042)	0.065 (0.040)	0.039 (0.049)	0.030 (0.046)	-0.230** (0.108)	-0.169 (0.103)	-0.320** (0.126)	-0.209* (0.121)
Revenue (Log.)		0.493*** (0.062)		0.477*** (0.061)		0.280* (0.161)		0.256 (0.162)
Pop. Dens. (Log.)		-0.089*** (0.022)		-0.124*** (0.022)		0.066 (0.042)		0.067 (0.045)
Powiat-Level City		-0.131* (0.072)		-0.124* (0.071)		-0.032 (0.204)		-0.023 (0.204)
Avg. Migr.		-0.001 (0.003)		-0.001 (0.003)		-0.009 (0.006)		-0.006 (0.006)
Unempl. Avg.		-0.002 (0.003)		0.0001 (0.003)		-0.002 (0.007)		-0.003 (0.007)
Academ. App.		-0.149** (0.071)		-0.145** (0.069)		-0.043 (0.183)		-0.088 (0.183)
Rural Commune		-0.155** (0.073)		-0.218*** (0.072)				
Urban-Rural Commune		-0.277*** (0.066)		-0.330*** (0.066)				
Population (Log.)						0.278*** (0.071)		0.286*** (0.073)
Dist.	-0.0005 (0.0003)	0.0001 (0.0003)	0.002 (0.002)	0.002 (0.002)	-0.0003 (0.001)	-0.0004 (0.001)	-0.001 (0.005)	-0.002 (0.004)
Dist. * Russia	0.0003 (0.0004)	-0.0003 (0.0004)	-0.002 (0.001)	-0.002 (0.001)	0.001 (0.001)	0.001 (0.001)	-0.0003 (0.004)	-0.0002 (0.004)
Constant	1.322*** (0.033)	-1.867*** (0.546)	288.362 (1,420.318)	1,663.944 (1,291.224)	1.681*** (0.082)	-3.474** (1.499)	-6,338.082* (3,630.802)	-6,205.916* (3,400.283)
Observations	569	464	569	464	487	465	487	465
R <sup>2</sup>	0.020	0.270	0.046	0.328	0.032	0.194	0.062	0.224
Adjusted R <sup>2</sup>	0.013	0.250	0.024	0.297	0.024	0.175	0.036	0.189

Note: OLS, Weights (Dist.)

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

**Table 6.25:** Prussia/Russia Comparison: Full Sample (Dist. Weights)

	<i>Dependent variable:</i>			
	Advert. Channels			
	Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)
Russia	-0.087 (0.059)	-0.071 (0.060)	-0.110 (0.073)	-0.060 (0.073)
Interwar Germany	-0.006 (0.054)	0.017 (0.054)	-0.040 (0.064)	0.017 (0.063)
Revenue (Log.)		0.014 (0.087)		-0.017 (0.089)
Pop. Dens. (Log.)		0.044** (0.022)		0.050** (0.023)
Powiat-Level City		-0.035 (0.103)		0.010 (0.104)
Avg. Migr.		0.001 (0.003)		0.001 (0.003)
Unempl. Avg.		-0.002 (0.004)		-0.006 (0.004)
Academ. App.		-0.065 (0.097)		-0.084 (0.097)
Population (Log.)		0.033 (0.038)		0.023 (0.039)
Dist.	0.0003 (0.0004)	0.0002 (0.0004)	-0.003 (0.002)	-0.002 (0.002)
Dist. * Russia	-0.001 (0.001)	-0.0002 (0.001)	0.003 (0.002)	0.002 (0.002)
Constant	0.912*** (0.041)	0.355 (0.804)	-1,031.856 (1,857.684)	-750.492 (1,816.288)
Observations	495	465	495	465

Note: Q.-Poiss., Weights (Dist.)

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

**Table 6.26:** Austria/Russia Comparison: Full Sample (Dist. Weights)

	<i>Dependent variable:</i>							
	Empl./Pop. (Log.)				App./Job (Log.)			
	Simple Distance		Lat./Long.		Simple Distance		Lat./Long.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Russia	0.335*** (0.075)	0.195** (0.080)	0.304*** (0.083)	0.178** (0.089)	-0.080 (0.203)	0.220 (0.197)	-0.215 (0.223)	0.127 (0.217)
Revenue (Log.)		0.448*** (0.081)		0.438*** (0.082)		0.004 (0.203)		0.034 (0.202)
Pop. Dens. (Log.)		-0.107*** (0.031)		-0.120*** (0.033)		-0.008 (0.065)		-0.014 (0.066)
Powiat-Level City		-0.070 (0.112)		-0.055 (0.112)		0.385 (0.310)		0.281 (0.311)
Avg. Migr.		0.002 (0.004)		0.0001 (0.004)		-0.003 (0.009)		0.003 (0.009)
Unempl. Avg.		-0.006 (0.004)		-0.005 (0.005)		-0.016 (0.011)		-0.019 (0.012)
Academ. App.		-0.323 (0.210)		-0.330 (0.210)		0.401 (0.532)		0.330 (0.529)
Rural Commune		-0.165* (0.097)		-0.184* (0.102)				
Urban-Rural Commune		-0.230*** (0.088)		-0.256*** (0.093)				
Population (Log.)						0.291*** (0.104)		0.320*** (0.104)
Dist.	-0.004*** (0.001)	-0.002 (0.001)	-0.002 (0.003)	0.001 (0.003)	-0.001 (0.003)	-0.005 (0.003)	-0.001 (0.007)	-0.006 (0.007)
Dist. * Russia	0.004*** (0.001)	0.002 (0.001)	0.002 (0.003)	-0.001 (0.003)	0.0005 (0.003)	0.005 (0.003)	0.004 (0.007)	0.012* (0.007)
Constant	1.093*** (0.065)	-1.315* (0.776)	2,301.790 (3,078.832)	3,989.324 (3,194.700)	1.462*** (0.176)	-1.717 (1.982)	2,589.401 (8,106.583)	-2,514.582 (7,901.753)
Observations	377	292	377	292	306	292	306	292
R <sup>2</sup>	0.069	0.268	0.085	0.296	0.005	0.149	0.042	0.195
Adjusted R <sup>2</sup>	0.061	0.239	0.054	0.244	-0.005	0.119	0.003	0.139

Note: OLS, Weights (Dist.)

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

**Table 6.27:** Austria/Russia Comparison: Full Sample (Dist. Weights)

	<i>Dependent variable:</i>			
	Simple Distance		Advert. Channels	
			Lat./Long.	
	(1)	(2)	(3)	(4)
Russia	-0.169*	-0.071	-0.211**	-0.062
	(0.098)	(0.095)	(0.107)	(0.105)
Revenue (Log.)		0.002		-0.004
		(0.096)		(0.097)
Pop. Dens. (Log.)		0.076**		0.072**
		(0.030)		(0.030)
Powiat-Level City		0.146		0.138
		(0.137)		(0.138)
Avg. Migr.		0.003		0.003
		(0.004)		(0.004)
Unempl. Avg.		-0.016***		-0.014**
		(0.005)		(0.006)
Academ. App.		0.366		0.372
		(0.313)		(0.310)
Population (Log.)		-0.035		-0.026
		(0.049)		(0.049)
Dist.	0.001	0.0002	0.010***	0.008**
	(0.002)	(0.002)	(0.004)	(0.003)
Dist. * Russia	-0.001	0.0004	-0.008**	-0.005
	(0.002)	(0.002)	(0.004)	(0.003)
Constant	0.879***	0.595	11,801.900***	8,544.483**
	(0.083)	(0.957)	(3,946.198)	(3,901.156)
Observations	312	292	312	292

Note: Q.-Poiss., Weights (Dist.)

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

**Table 6.28:** Prussia/Austria Comparison: Full Sample (Dist. Weights)

	<i>Dependent variable:</i>							
	Empl./Pop. (Log.)				App./Job (Log.)			
	Simple Distance		Lat./Long.		Simple Distance		Lat./Long.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Austria	-0.176** (0.074)	-0.056 (0.071)	-0.266*** (0.094)	-0.098 (0.087)	-0.175 (0.203)	-0.324* (0.186)	-0.010 (0.258)	-0.131 (0.235)
Interwar Germany	0.097*** (0.036)	0.038 (0.034)	0.050 (0.047)	0.018 (0.045)	-0.206** (0.099)	-0.153 (0.093)	-0.301** (0.132)	-0.142 (0.127)
Revenue (Log.)		0.651*** (0.096)		0.574*** (0.101)		0.548** (0.266)		0.540* (0.285)
Pop. Dens. (Log.)		-0.138*** (0.026)		-0.148*** (0.026)		0.113** (0.050)		0.109** (0.053)
Powiat-Level City		-0.176** (0.077)		-0.159** (0.080)		-0.044 (0.241)		-0.056 (0.250)
Avg. Migr.		-0.002 (0.003)		-0.002 (0.003)		0.001 (0.009)		0.004 (0.009)
Unempl. Avg.		0.002 (0.003)		0.0004 (0.003)		0.004 (0.009)		0.004 (0.010)
Academ. App.		-0.138* (0.074)		-0.130* (0.074)		-0.108 (0.203)		-0.161 (0.206)
Rural Commune		-0.368*** (0.085)		-0.362*** (0.085)				
Urban-Rural Commune		-0.393*** (0.076)		-0.386*** (0.075)				
Population (Log.)						0.291*** (0.079)		0.301*** (0.080)
Dist.	0.00000 (0.0001)	0.0005*** (0.0001)	0.0001 (0.002)	0.002 (0.002)	0.0003 (0.0003)	-0.0002 (0.0004)	-0.002 (0.005)	-0.001 (0.004)
Dist. * Austria	0.001* (0.0004)	-0.001** (0.0004)	-0.004* (0.002)	-0.007*** (0.002)	-0.001 (0.001)	0.001 (0.001)	-0.008 (0.006)	-0.001 (0.006)
Constant	1.349*** (0.042)	-2.692*** (0.833)	2,620.569* (1,531.036)	871.582 (1,425.861)	1.770*** (0.114)	-6.027** (2.367)	-6,848.151 (4,303.525)	-1,985.407 (3,980.844)
Observations	376	322	376	322	335	323	335	323
R <sup>2</sup>	0.060	0.342	0.136	0.383	0.020	0.255	0.054	0.273
Adjusted R <sup>2</sup>	0.050	0.316	0.105	0.339	0.008	0.229	0.016	0.224

Note: OLS, Weights (Dist.)

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

**Table 6.29:** Prussia/Austria Comparison: Full Sample (Dist. Weights)

	<i>Dependent variable:</i>			
	Simple Distance		Advert. Channels	
	(1)	(2)	Lat./Long.	(4)
Austria	0.026 (0.101)	0.024 (0.100)	0.115 (0.125)	0.127 (0.122)
Interwar Germany	-0.025 (0.049)	-0.008 (0.050)	0.019 (0.064)	0.037 (0.066)
Revenue (Log.)		0.004 (0.143)		-0.003 (0.152)
Pop. Dens. (Log.)		0.039 (0.026)		0.028 (0.027)
Powiat-Level City		-0.005 (0.125)		-0.033 (0.128)
Avg. Migr.		-0.002 (0.005)		-0.0001 (0.005)
Unempl. Avg.		0.0002 (0.005)		-0.001 (0.005)
Academ. App.		-0.091 (0.107)		-0.115 (0.108)
Population (Log.)		0.057 (0.042)		0.069 (0.042)
Dist.	-0.0001 (0.0002)	-0.0002 (0.0002)	-0.001 (0.002)	-0.002 (0.002)
Dist. * Austria	-0.0004 (0.001)	-0.00001 (0.001)	-0.006* (0.003)	-0.004 (0.003)
Constant	0.874*** (0.056)	0.161 (1.272)	-2,943.163 (2,078.871)	-1,941.837 (2,142.710)
Observations	341	323	341	323

Note: Q.-Poiss., Weights (Dist.)

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 6.2.18 Matching: Additional Information

In section 3.6, I have presented the results of regressions based on genetic matching. Below, I show several figures, which include detailed visual information on the distribution of propensity scores before and after matching. These graphs show to what extent the matching procedure has led to a more balanced comparison between treatment and control units.

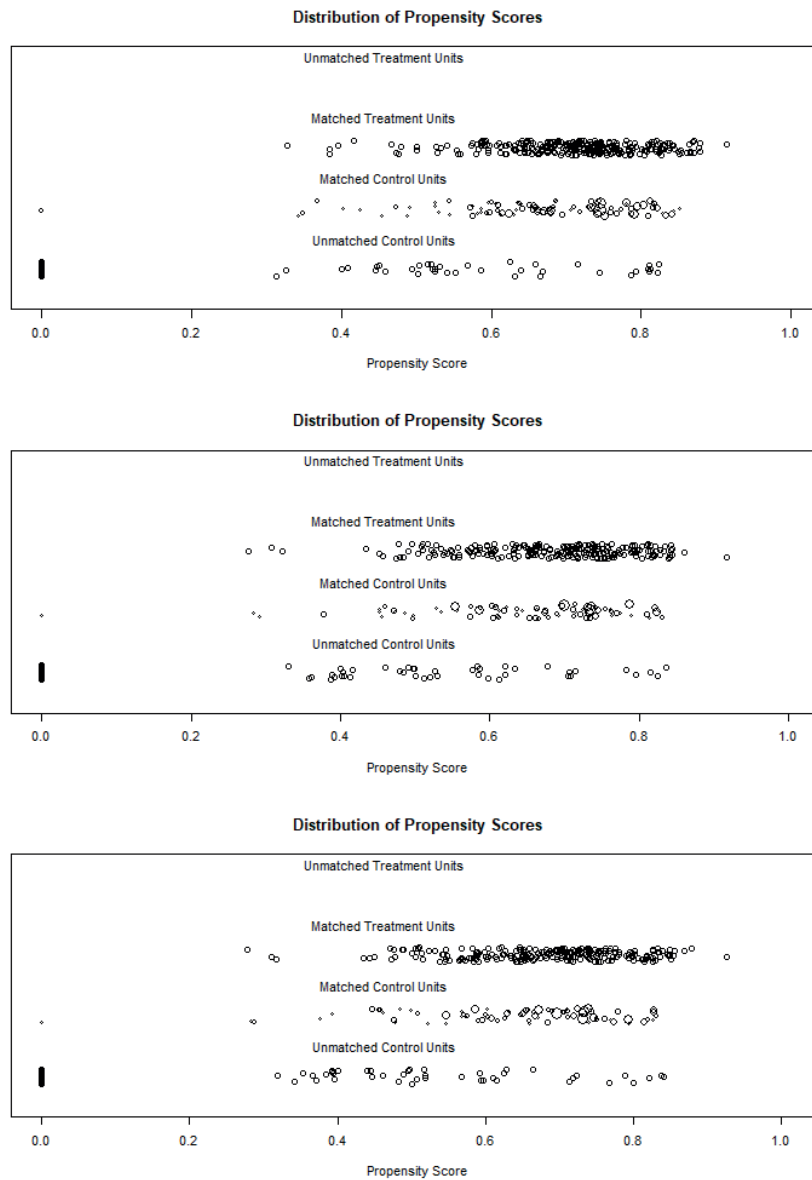
Figure 6.49 shows the results for all three variables in the Prussia/Russia comparison. Figure 6.50, Figure 6.51, and Figure 6.52 provide further histograms for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively.

Figure 6.53 shows the results for all three variables in the Austria/Russia comparison. Figure 6.54, Figure 6.55, and Figure 6.56 provide further histograms for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively.

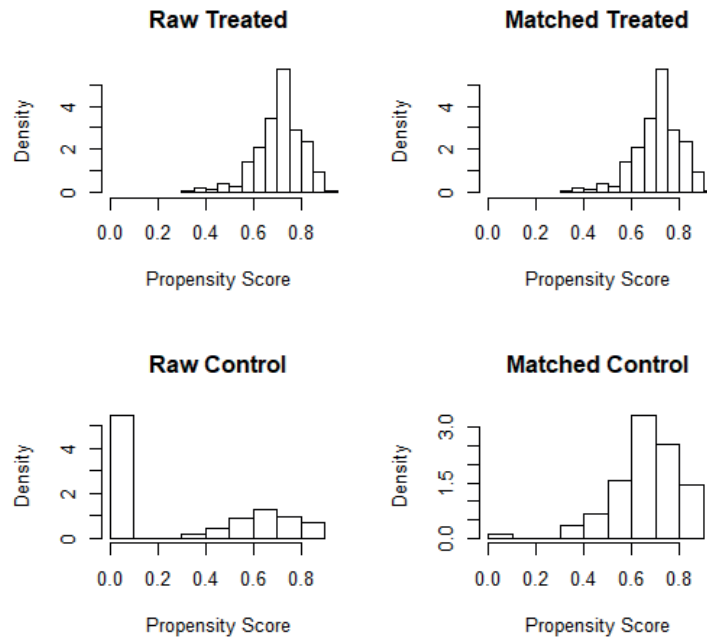
Figure 6.57 shows the results for all three variables in the Prussia/Austria comparison. Figure 6.58, Figure 6.59, and Figure 6.60 provide further histograms for the relative number of employees, the relative number of applicants, and the number of channels of advertisement, respectively.



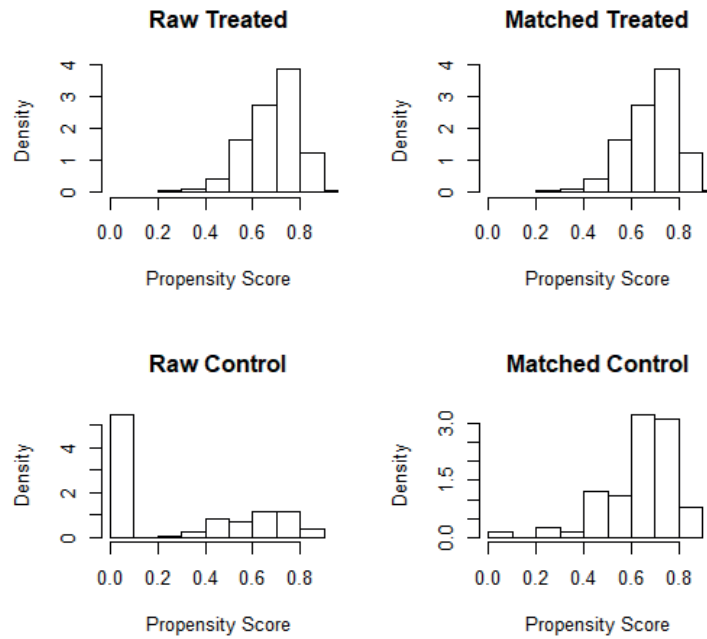
**Figure 6.49:** Prussia/Russia Comparison: Distribution of Propensity Scores (Empl. per 1,000 Inh., Appl. per Job, Channels of Advert.)



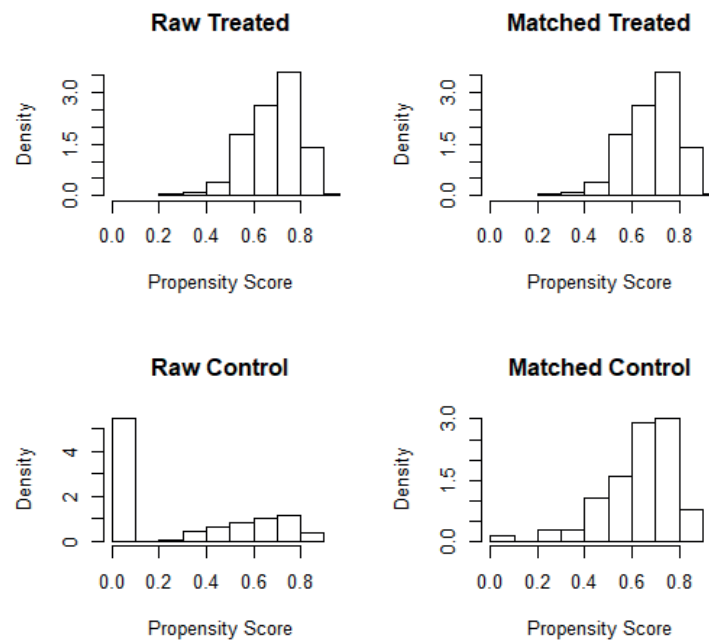
**Figure 6.50:** Prussia/Russia Comparison: Histogram of Propensity Scores (Employees per 1,000 Inhabitants)



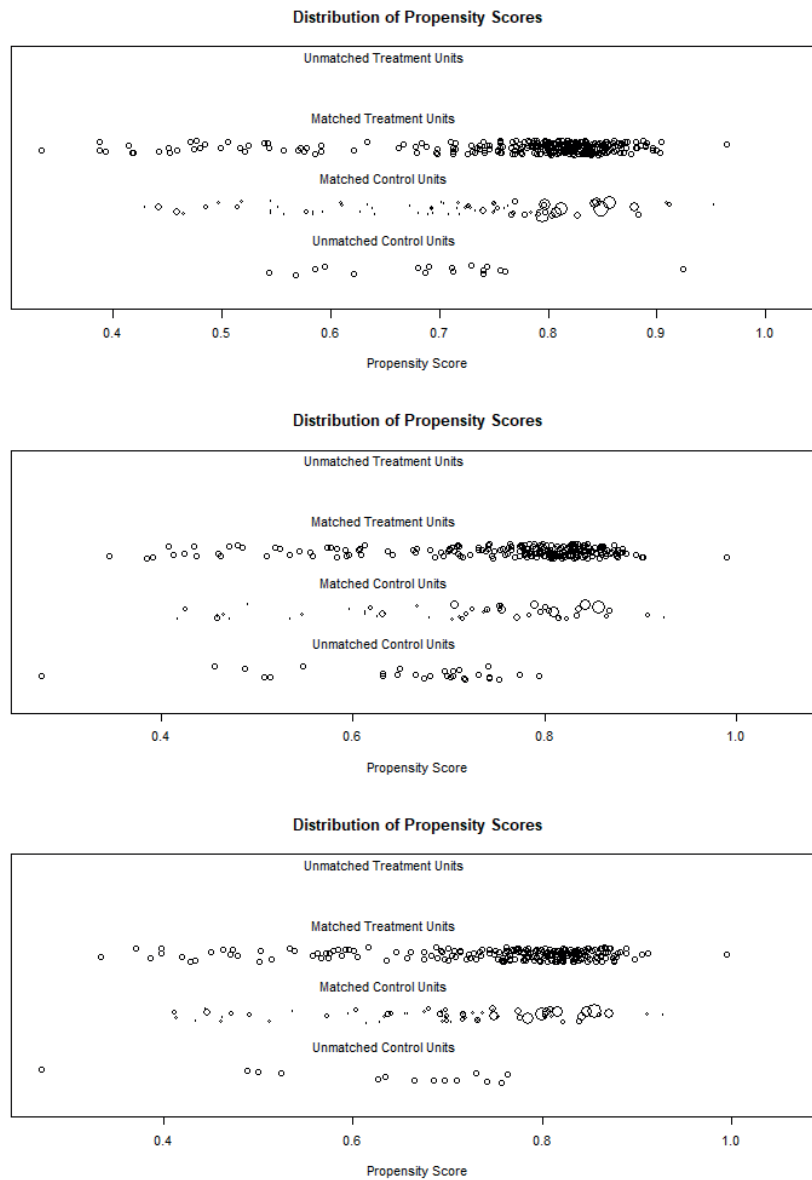
**Figure 6.51:** Prussia/Russia Comparison: Histogram of Propensity Scores (Applicants per Job)



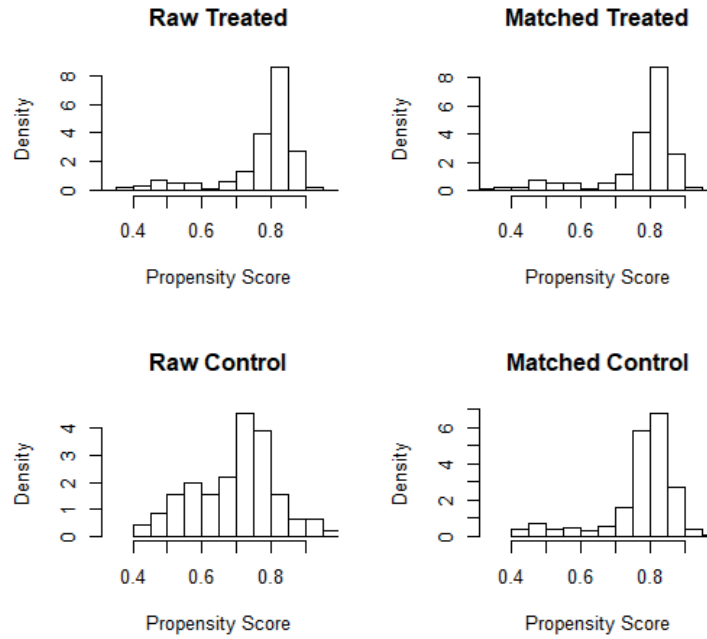
**Figure 6.52:** Prussia/Russia Comparison: Histogram of Propensity Scores (Channels of Advertisement)



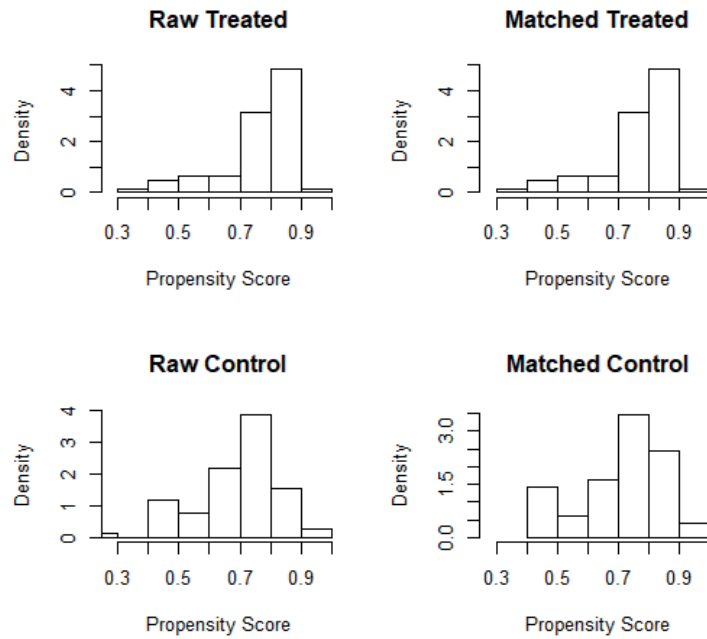
**Figure 6.53:** Austria/Russia Comparison: Distribution of Propensity Scores (Empl. per 1,000 Inh., Appl. per Job, Channels of Advert.)



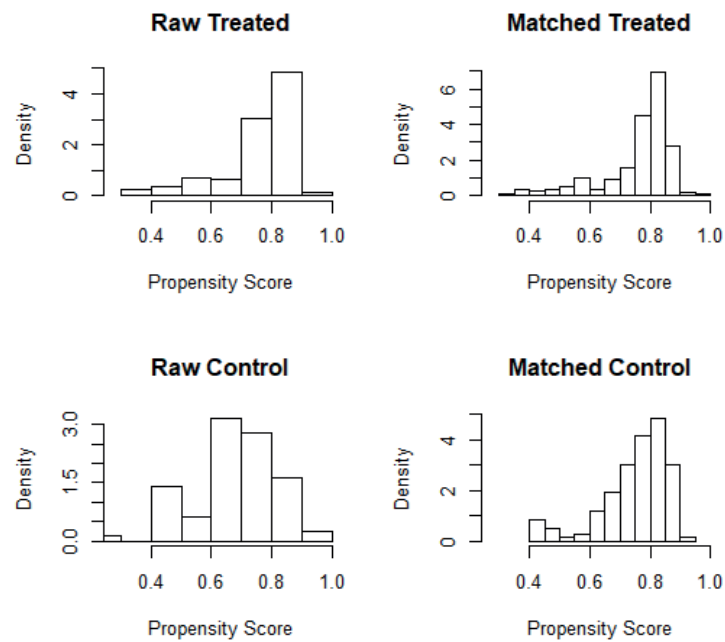
**Figure 6.54:** Austria/Russia Comparison: Histogram of Propensity Scores (Employees per 1,000 Inhabitants)



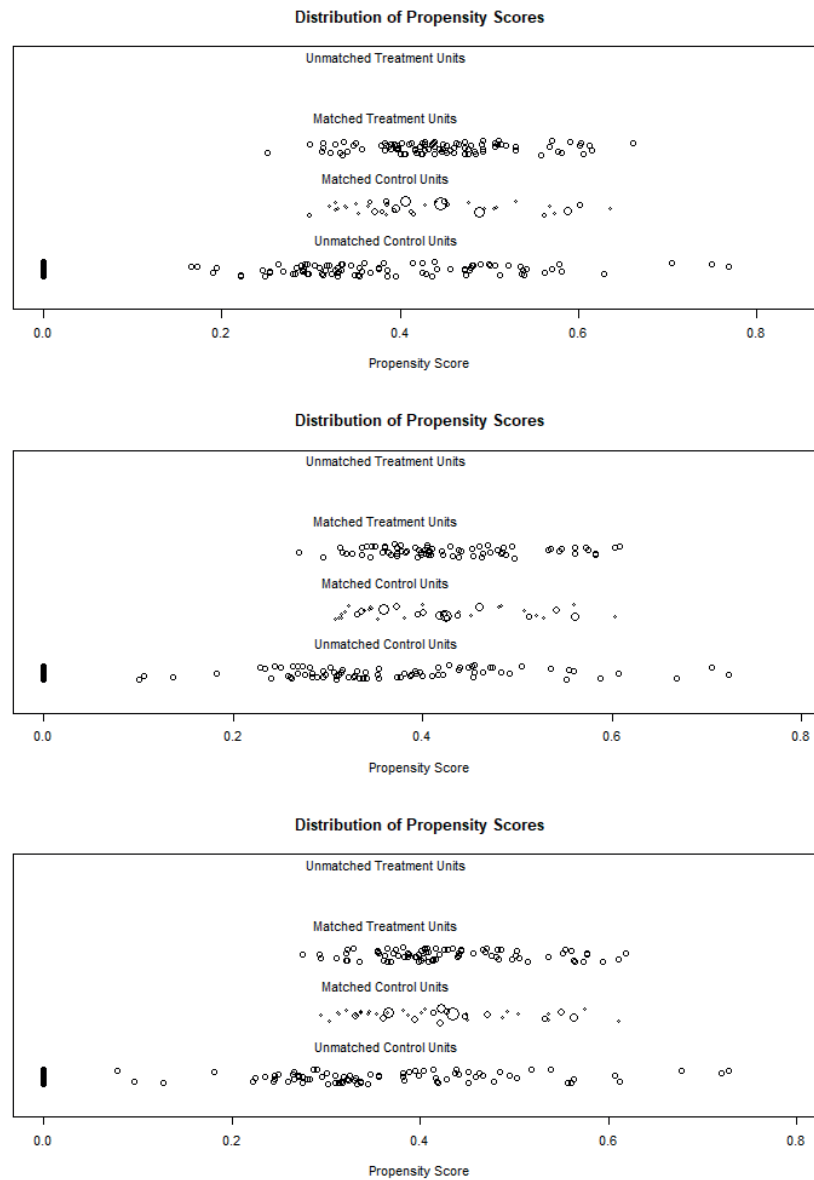
**Figure 6.55:** Austria/Russia Comparison: Histogram of Propensity Scores (Applicants per Job)



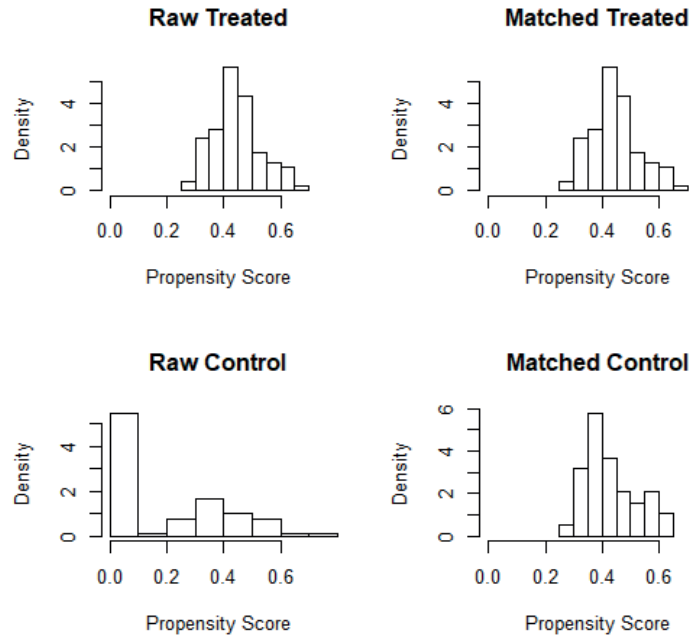
**Figure 6.56:** Austria/Russia Comparison: Histogram of Propensity Scores (Channels of Advertisement)



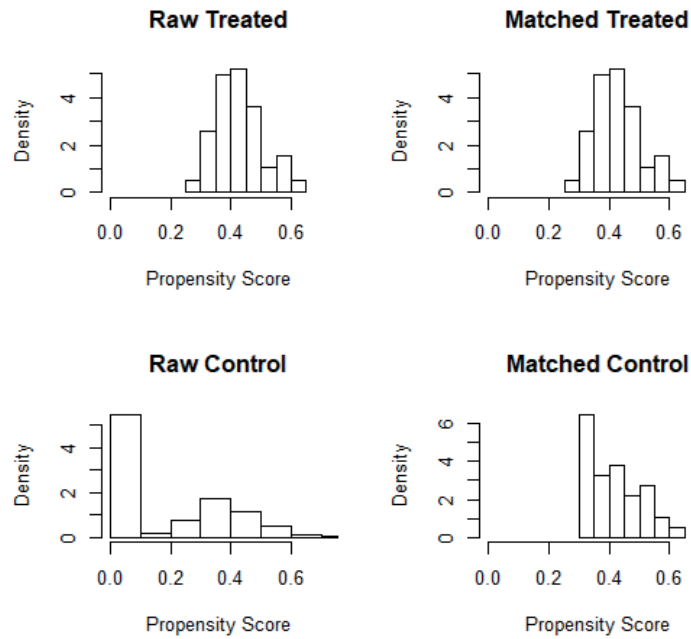
**Figure 6.57:** Prussia/Austria Comparison: Distribution of Propensity Scores (Empl. per 1,000 Inh., Appl. per Job, Channels of Advert.)



**Figure 6.58:** Prussia/Austria Comparison: Histogram of Propensity Scores (Employees per 1,000 Inhabitants)

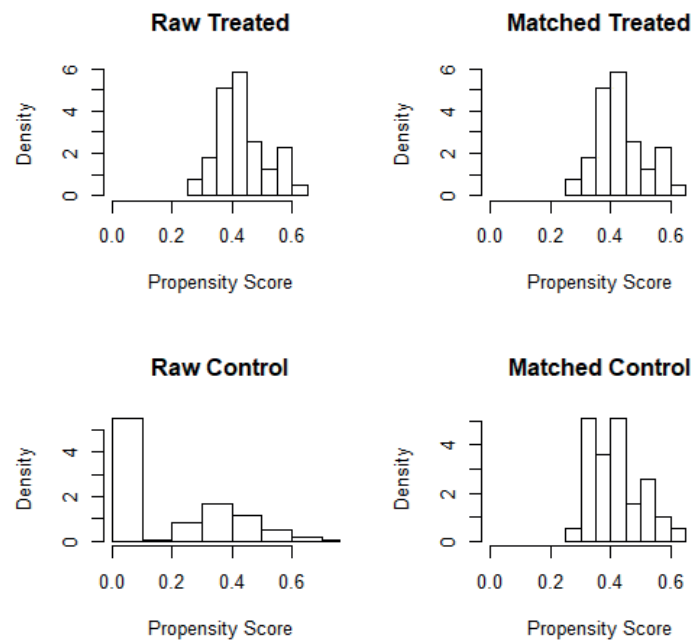


**Figure 6.59:** Prussia/Austria Comparison: Histogram of Propensity Scores (Applicants per Job)





**Figure 6.60:** Prussia/Austria Comparison: Histogram of Propensity Scores (Channels of Advertisement)



## 6.3 Appendix of Chapter Four

This appendix includes additional empirical evidence and further discussions of claims that were made in the fourth chapter. In subsection 6.3.1, I discuss how the framework applies to the history of the smaller Romanian region of Bucovina. In subsection 6.3.2, I present general information on the expert interviews. In subsection 6.3.3, I provide the guiding questions of these interviews. In subsection 6.3.4, I discuss the dependent variables in more detail. In subsection 6.3.5, I analyze pre-treatment characteristics. In subsection 6.3.6, I apply the Holm-correction to the p-values obtained in the main regressions. In subsection 6.3.7, I discuss the results of a simple dummy variable analysis when not limiting the samples to the optimal bandwidth. In subsection 6.3.8, I extend the previous analysis by including covariates. In subsection 6.3.9, I show covariate balance statistics. In subsection 6.3.10, I provide a large number of additional statistical analyses to complement the analyses in the main body of the chapter. In subsection 6.3.11 and subsection 6.3.12, I extend the geographic analysis to the third and fourth measurements of local institutions, respectively.

### 6.3.1 Additional Historical Discussion: Bucovina

In addition to Transylvania, another part of present-day Romania, namely *Bucovina*, did not belong to the Kingdom of Romania. Even though it was also under Habsburg rule, it was administratively disconnected from Transylvania. Despite the separate administrative status, Bucovina was similar to Transylvania in terms of its social and economic structures. Furthermore, in Bucovina, too, there were attempts to undermine the historically Romanian character of the province through immigration

of Germans and the exclusion of Romanians from the civil service (Hitchins, 1994, 231-239; Hitchins, 2014, 146; Judson, 2016, 73-74). Accordingly, similar patterns of the foreign imposition of institutions and local resistance against them can be observed in both Transylvania and Bucovina. Therefore, I expect the results of the analysis to be comparable in both regions.

### 6.3.2 General Information on the Expert Interviews

Expert interviews were conducted in June 2017 in two Romanian cities: Bucharest and Cluj-Napoca. Those semi-structured interviews focused on administrative culture, recruitment into the local public administration, and the history of the public administration. In total, 5 scholars, 2 employees of local public administrations, and 1 local politician participated. The three key goals of the interviews were to (1) confirm the historical differences between Transylvania and the formerly independent parts of Romania, (2) assess if regional differences still exist in the present day, and (3) identify the most likely mechanisms of inter-temporal transmission.

This is a list of the interview partners:

1. Dr. Darie Cristea (Sociologist, Bucharest)
2. Dr. Lucian Dumitrescu (Sociologist/Political Scientist, Bucharest)
3. Alexandru Lazarov (Local City Councilor, Bucharest)
4. Dr. Bogdana Neamtu (Public Administration Scholar, Cluj-Napoca)
5. Dr. Adrian Hudrea (Public Administration Scholar, Cluj-Napoca)
6. Dr. Liviu Radu (Public Administration Scholar, Cluj-Napoca)
7. Oana Buzatu (Employee of the Cluj-Napoca City Administration)
8. Calin Cioban (Employee of the Cluj-Napoca City Administration)

### 6.3.3 Expert Interviews: Question Catalog

Depending on their primary field of expertise, the interviewees were asked questions from three areas of interest: (1) administrative culture, (2) recruitment into the local public administration, and (3) the history of the public administration. As the interviews were semi-structured, the three topic areas were rough guidelines, but there was significant space for deviating from the original questions and making more specific inquiries depending on both the given answers and the exact field of expertise of the respective interviewee. Following the first few interviews and based on the responses obtained, more detailed questions on inter-temporal mechanisms of transmission were added in later interviews. Thus, the interview process had a significant exploratory component.

#### Topic 1: Administrative Culture

1. Let us talk about the values and the culture of the local public administration.
2. How important is it for the public administration to be responsive to the needs of citizens?
3. Which measures are taken to ensure that requests by citizens are responded to comprehensively and in a professional manner? Such measures can include job training, seminars, or regulations put in place at the local administration.
4. How important is it for the public administration to ensure quick response times?
5. Which measures are taken to ensure that requests by citizens are responded to quickly?
6. How important is accountability to members of the local public administration? Who are members of the local public administration accountable to? Their superiors (career bureaucrats)? The law? Citizens? The political leadership of the commune?
7. Let me give you an academic definition of administrative culture. By administrative culture, we refer to “shared values and persistent patterns of interaction”, i.e. goals, standards, patterns of behavior that are characteristics of the local public administration.

8. What are the main characteristics of the administrative culture in the local public administration?
9. Let me name a few administrative norms and values: (1) accountability (adherence to rules and regulations), (2) efficiency and speed, (3) loyalty to superiors (leading career bureaucrats), (4) political impartiality, (5) responsiveness to the needs of citizens. When it comes to values, which values are most important to the employees of this public administration? Which of those values are most important to the political leadership and why?
10. If there are any differences in the values that are important to the political leadership and the citizens, where do these differences come from?
11. Has the administrative culture changed much over the last 20 years? Have any reforms occurred that might have had an impact on the administrative culture?
12. If no, what contributes to the persistence of administrative culture?
13. If yes, what are the most important changes in the administrative culture?
14. Are employees of the local public administration generally satisfied with the administrative culture? Why or why not?
15. What do you think is the perception that local citizens have of the administration?
16. Do local citizens view the public administration as efficient or inefficient? Do they have positive or negative views of it?
17. Are there regional differences in terms of how the public administration is perceived? Do people in the northwest of Romania have views that differ from the views of people in the southeast of the country?
18. If there is regional variation, do you have any explanation for why we observe these differences across different parts of Romania?
19. Are there any additional important aspects of administrative culture that we have not yet talked about? If yes, what are they and why are they important?

## **Topic 2: Recruitment into the Local Public Administration**

1. Let us talk about recruitment procedures in the local public administration.
2. How does the recruitment process look like in general? How are positions advertised? How are candidates chosen for tests and/or interviews? How are the tests and/or interviews conducted?

3. How many people are involved in the recruitment process of a single applicant? Who makes the final decision regarding who is hired?
4. How much emphasis do recruiters of the public administration put on experience in comparable jobs when it comes to recruitment?
5. How much emphasis do recruiters of the public administration put on academic or educational qualifications when it comes to recruitment?
6. How much emphasis do recruiters of the public administration put on tests or interviews that the candidates have to participate in?
7. Do people sometimes have a chance to be hired without the perfect educational background or related job experience? If yes, which factors might help them in terms of being hired?
8. How openly are job positions advertised? How many different channels of advertisement are used?
9. Which methods are used to ensure that the hiring process is fair and transparent?
10. Have there been any situations in the past where the fairness or transparency of the hiring process was called into question? If yes, which measures were taken to address this?
11. Which impact does the view that people have of the administration have on applicant numbers?
12. How attractive is the public administration to people as a working place? How does this affect the numbers of applicants?
13. Is the public administration aware of the importance of public attitudes toward local public administration for recruitment?
14. Have the attitudes towards the bureaucracy (that citizens and applicants have) changed in any way over the last 10, 20, or more years?
15. Are there any additional important aspects of the recruitment process that we have not yet talked about? If yes, what are they and why are they important?

### **Topic 3: The History of the Public Administration**

1. Let us talk about the history of the public administration.

2. Have there been any major reforms of the public administration since 1990 (including the break from socialism)? If yes, what was their goal? Were they effective at reaching that goal?
3. How did administrative reforms affect the central administration of the state?
4. How did administrative reforms affect the local public administration?
5. I would like to go ask about previous historical periods. Several scholars and historians argue that the period before 1918 was important for the views of the Romanian public on the state. In what ways has this period shaped the view of the Romanian people on the state and on the public administration?
6. What are the long-term consequences of these historical experiences on the public view of the local bureaucracy?
7. What were the key differences between the public administrations of the parts of Romania that were under the control of the Habsburg Empire and the parts that became independent? How did these differences impact the two parts of present-day Romania?
8. How has the unification of Romania in 1918 and the end of foreign rule changed the local public administration? How successful was the reform/reorganization of the public administration at the beginning of the new Romanian state? Which things did change and which things did not?
9. Were there any legacies from the period of foreign rule that persisted after 1918? If yes, what were they and how did this affect the new public administration?
10. How has the period of the dictatorship 1938-1944 affected the public administration? Which aspects of the public administration stayed the same and which aspects have changed?
11. How was the public administration organized during the period of socialism? How did the socialist rule affect the public administration? Which things were different back then and which things very similar? Which reforms occurred during the period of socialism?
12. What would you say how much history matters for the current state of the public administration? Have historical developments shaped the present-day public administration?
13. In places where the public administration is perceived as more efficient or prestigious, are people more likely to apply for jobs in it?
14. Are there any additional important aspects of the history of the public administration (both on the central and local level) that we have not yet talked about? If yes, what are they and why are they important?

### 6.3.4 Additional Information on the Dependent Variables

This section provides information on the coding of key dependent variables. In total, I have used six dependent variables in the analysis—local corruption levels, wait times for ID applications at local public administrations, trust in the local public administration, perceptions of efficiency of the local public administration, trust in courts (which are found at the district/county level and above), and wait times for car registrations at the county level. In the following paragraphs, I show both the question and the answer options for each variable.

**1. Question on local corruption levels (local level):** “Thinking about your own experiences and what you have heard from others, how common is it that people make informal payments to the local public administration to speed up bureaucratic procedures or ensure a positive response to a request (for example, to ensure that a request for a business permit will be approved)?”

1. Extremely common (3)
2. Very common (2)
3. Slightly common (1)
4. Neither common nor uncommon (0)
5. Slightly uncommon (-1)
6. Very uncommon (-2)
7. Extremely uncommon (-3)

**2. Question on wait times for IDs (local level, nearest municipality):** “This question is about applying for an ID at your local public administration [at the city level]. Thinking about your own experiences and what you have heard from others, about how long is the wait to make the initial application for the ID?”

1. Less than 1 hour (0)



2. 1 hour (1)
3. 2 hours (2)
4. 3 hours (3)
5. 4 hours (4)
6. 5 hours (5)
7. 6 or more hours (6)

**3. Question on trust into the local public administration (at the level of the municipality, city, or commune):** “How much do you trust or distrust the local public administration?”

1. Completely trust (3)
2. Mostly trust (2)
3. Slightly trust (1)
4. Neither trust nor distrust (0)
5. Slightly distrust (-1)
6. Mostly distrust (-2)
7. Completely distrust (-3)

**4. Question on perceptions of the efficiency of the local public administration (at the level of the municipality, city, or commune):** “Generally speaking, how efficient or inefficient is the local public administration?”

1. Extremely efficient (3)
2. Very efficient (2)
3. Efficient (1)
4. Neither efficient nor inefficient (0)
5. Inefficient (-1)

6. Very inefficient (-2)
7. Extremely inefficient (-3)

**5. Question on trust in courts (regional level):** “How much do you trust or distrust the courts?”

1. Completely trust (3)
2. Mostly trust (2)
3. Slightly trust (1)
4. Neither trust nor distrust (0)
5. Slightly distrust (-1)
6. Mostly distrust (-2)
7. Completely distrust (-3)

**6. Question on applications for driver’s licenses (county level):** “This question is about applying for a driver’s license or registering a car at your local public administration [at the county level]. Thinking about your own experiences and what you have heard from others, about how long is the wait at the administration to make such an application?”

1. Less than 1 hour (0)
2. 1 hour (1)
3. 2 hours (2)
4. 3 hours (3)
5. 4 hours (4)
6. 5 hours (5)
7. 6 or more hours (6)

### 6.3.5 Pre-Treatment Characteristic Comparison

In the historical background section (section 4.2), I discussed evaluations by Levkin (2015) and Becker et al. (2016) to support the claim of quasi-randomness regarding the Habsburg border. Becker et al. (2016) use data on medieval city size, access to medieval trade routes, and presence of a medieval diocesan town to test the claim of quasi-randomness of the Habsburg imperial borders. Considering a large number of towns in Eastern Europe, they find support for this claim.

Moreover, I use a subset of the data by Becker et al. (2016) to compare pre-treatment characteristics of towns in Romania. The purpose of this comparison is to address arguments that historically deeply rooted pre-treatment characteristics could have differed so significantly that they might be responsible for the observed long-term variation.

The results indicate that there were some differences, but they were either small, not statistically significant, or both. In all of the comparisons below, I fail to reject the null hypothesis at  $\alpha = 0.1$ . For more details, see Table 6.30.

**Table 6.30:** Pre-Treatment Characteristic Comparison: Habsburg and Non-Habsburg Towns

Variable	$\bar{x}$	$\bar{y}$	Test Statistic	p-value
Medieval City Size	5.40	12.67	t = -1.0694	0.37
Access to Medieval Trade Route	0.31	0.40	z = -0.43	0.67
Medieval Diocesan Town	0.19	0.10	z = 0.62	0.54

### 6.3.6 Additional Analysis: Correcting p-Values for Multiple Comparisons

Since I test my two hypotheses on a variety of different variables, I provide additional results of the main regressions that correct the p-values for the fact that it

is easier to obtain significant results when conducting multiple comparisons (Holm, 1979).<sup>12</sup> Even when applying this conservative approach to correcting p-values, all of the key results remain statistically significant (at  $\alpha < 0.5$  or  $\alpha < 0.01$ ) as shown below (Table 6.31 and Table 6.32).

**Table 6.31:** Regional Institutions (Simple Dummy Variables) (at Optimal Bandwidths) (Holm-Corrected p-Values)

	<i>Dependent variable:</i>	
	Trust in Courts Regional/Non-Local Institutions	Wait Time (Car)
	(1)	(2)
Habsburg Empire	0.406** (0.138)	-0.797*** (0.143)
Constant	0.528*** (0.087)	3.094*** (0.089)
Observations	719	641
R <sup>2</sup>	0.012	0.046
Adjusted R <sup>2</sup>	0.010	0.045

Note: OLS,  
Holm-corrected  
p-values  
(Legacy Dummy)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

<sup>12</sup>The corrected p-values are reflected by the number of stars (\*).

**Table 6.32:** Local Institutions (Simple Dummy Variables) (at Optimal Bandwidths) (Holm-Corrected p-Values)

	<i>Dependent variable:</i>			
	Corruption	Wait Time (ID)	Trust in Loc. PA Local Institutions	Efficiency of Loc. PA
	(1)	(2)	(3)	(4)
Habsburg Empire	0.423*** (0.129)	0.050 (0.083)	-0.084 (0.101)	-0.079 (0.071)
Constant	0.064 (0.083)	1.078*** (0.054)	0.945*** (0.065)	0.771*** (0.046)
Observations	745	905	957	936
R <sup>2</sup>	0.014	0.0004	0.001	0.001
Adjusted R <sup>2</sup>	0.013	-0.001	-0.0003	0.0003

Note: OLS,  
Holm-corrected  
p-values  
(Legacy Dummy)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 6.3.7 Additional Analysis: Simple Dummy Variables

In addition to the regressions in the main body of the chapter (section 4.4), which are limited to the optimal bandwidth, I conduct further analyses with simple dummy regressions (Equation 4.1) for the entire sample. As shown in regressions 1 and 2 in Table 6.33, when using the simple dummy framework for the entire sample, my expectation is confirmed at the regional level. As in previous regressions, regional institutions enjoy higher levels of trust (the court system) and have significantly lower wait times for car registrations/driver's licenses (regional bureaucracies) in the formerly Habsburg part of Romania.

As shown in regressions 1 through 4 (Table 6.34), with respect to the local level, my expectations are generally confirmed as well when considering the entire sample. As previously, the level of perceived corruption in local-level public administrations is significantly higher in the formerly Habsburg part of Romania. Additionally, in terms of wait times for an ID, trust in local public administrations, and the perceived

**Table 6.33:** Simple Dummy Variable Analysis: Regional Institutions

	<i>Dependent variable:</i>	
	Trust in Courts Regional/Non-Local Institutions	Wait Time (Car)
	(1)	(2)
Habsburg Empire	0.281** (0.131)	-0.811*** (0.138)
Constant	0.594*** (0.084)	3.082*** (0.086)
Observations	797	671
R <sup>2</sup>	0.006	0.049
Adjusted R <sup>2</sup>	0.004	0.048

Note: OLS \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

efficiency of local public administrations, there are still no statistically significant differences in these new models. Results with covariates are presented below (subsection 6.3.8). A more rigorous geographic analysis of these variables can be found in the main body of the chapter (section 4.4) and these results are just included for completeness.

**Table 6.34:** Simple Dummy Variable Analysis: Local Institutions

	<i>Dependent variable:</i>			
	Corruption	Wait Time (ID)	Trust in Loc. PA Local Institutions	Efficiency of Loc. PA
	(1)	(2)	(3)	(4)
Habsburg Empire	0.330*** (0.125)	-0.022 (0.082)	-0.089 (0.098)	-0.093 (0.070)
Constant	0.124 (0.081)	1.129*** (0.053)	0.964*** (0.063)	0.785*** (0.045)
Observations	805	960	997	956
R <sup>2</sup>	0.009	0.0001	0.001	0.002
Adjusted R <sup>2</sup>	0.007	-0.001	-0.0002	0.001

Note: OLS \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 6.3.8 Extension of the Simple Dummy Variable Analysis: Including Covariates

Table 6.35 shows the results of the simple dummy variable regressions with respect to the regional level for the entire sample when including all of the covariates discussed in the results section (section 4.3).

**Table 6.35:** Simple Dummy Variable Analysis: Regional Institutions (With Covariates)

	<i>Dependent variable:</i>	
	Trust in Courts Regional/Non-Local Institutions	Wait Time (Car)
	(1)	(2)
Habsburg Empire	0.415** (0.163)	-0.778*** (0.165)
Commune	-0.393* (0.211)	0.217 (0.221)
Municipality	-0.092 (0.235)	-0.088 (0.241)
Female Mayor	-0.324 (0.368)	-0.222 (0.369)
Same Party	-0.232 (0.163)	-0.136 (0.162)
Residence Years	0.004 (0.006)	0.009 (0.006)
Age	-0.003 (0.007)	-0.009 (0.007)
PA Work Exper.	0.672* (0.355)	-0.667* (0.364)
Educ. Level	-0.057 (0.078)	-0.015 (0.078)
Income Level	-0.100 (0.079)	-0.026 (0.073)
Female	0.018 (0.156)	0.220 (0.156)
Capital	0.952 (0.613)	0.916 (0.580)
Constant	1.183*** (0.453)	3.139*** (0.435)
Observations	586	496
R <sup>2</sup>	0.034	0.092
Adjusted R <sup>2</sup>	0.014	0.069

Note: OLS \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 6.36 shows the results of the simple dummy variable regressions with respect to the local level for the entire sample when including all of the covariates discussed earlier (section 4.3).

**Table 6.36:** Simple Dummy Variable Analysis: Local Institutions (With Covariates)

	<i>Dependent variable:</i>			
	Corruption (1)	Wait Time (ID) (2)	Trust in Loc. PA Local Institutions (3)	Efficiency of Loc. PA (4)
Habsburg Empire	0.266* (0.151)	0.005 (0.104)	0.051 (0.123)	0.033 (0.086)
Commune	0.328 (0.200)	0.112 (0.138)	0.143 (0.165)	0.085 (0.117)
Municipality	0.459** (0.218)	0.386** (0.152)	0.246 (0.181)	0.057 (0.128)
Female Mayor	-0.147 (0.334)	-0.091 (0.253)	-0.262 (0.278)	0.016 (0.191)
Same Party	-0.493*** (0.151)	-0.038 (0.104)	-0.342*** (0.124)	-0.081 (0.087)
Residence Years	-0.013** (0.005)	-0.0002 (0.004)	0.003 (0.004)	0.001 (0.003)
Age	-0.001 (0.006)	-0.005 (0.004)	0.005 (0.005)	0.001 (0.003)
PA Work Exper.	-1.657*** (0.398)	-0.369 (0.254)	0.223 (0.298)	0.514** (0.208)
Educ. Level	-0.057 (0.071)	-0.022 (0.049)	-0.041 (0.058)	-0.107*** (0.041)
Income Level	0.035 (0.071)	0.013 (0.050)	-0.079 (0.059)	-0.037 (0.041)
Female	-0.004 (0.143)	-0.119 (0.099)	0.191 (0.117)	0.031 (0.082)
Capital	0.213 (0.544)	-0.259 (0.384)	-0.501 (0.448)	-0.323 (0.322)
Constant	0.688* (0.404)	1.318*** (0.286)	0.790** (0.341)	0.907*** (0.237)
Observations	600	707	730	702
R <sup>2</sup>	0.080	0.023	0.036	0.035
Adjusted R <sup>2</sup>	0.061	0.006	0.020	0.018

Note: OLS

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



### 6.3.9 Covariate Balance Table

Table 6.37 shows balance statistics for the covariates. 6 of the 8 covariates do not vary in a statistically significant way between the parts of present-day Romania that were controlled by the Habsburgs and the parts that were independent. However, two variables—(1) the perceived success of a single party in elections and (2) respondent age—vary in a systematic fashion. These differences make it important to control for them in the empirical specifications. I conduct genetic matching to respond to this imbalance in covariates.

**Table 6.37:** Covariate Balance Table

	std.diff	z	
Female Mayor	-0.05	-0.73	
Same Party Success	0.33	4.37	***
Years of Residence	0.01	0.12	
Age	0.19	2.65	**
Work in PA	0.12	1.49	
Educ. Level	-0.02	-0.23	
Income Level	0.11	1.44	
Female	-0.06	-0.86	

### 6.3.10 Regression Discontinuity Analysis: Additional Tests

In this section, I present additional density and sensitivity tests for the four variables that showed significant effects in the geographic regressions. These tests are meant to check if the significant results have any validity issues.

#### Density Tests

Sorting at the threshold would call the assumptions of the regression discontinuity design into question. Therefore, I use a procedure by McCrary (2008) to conduct

a number of density tests. Three of the four tests conducted have failed to reject the null hypothesis that the density is continuous around the threshold (at levels of  $\alpha = 0.05$ ). However, I find some evidence for changes in density with respect to the first measurement (local corruption levels) ( $p < 0.05$ ). This could be due to the social sensitivity of the question. Yet as the plots for all variables show (Figure 6.61, Figure 6.62, Figure 6.63, Figure 6.64), there is a general trend in all responses to drop slightly on the right side of the border (the part that belonged to independent Romania), including non-sensitive questions.

**Figure 6.61:** Density Test: Corruption Levels

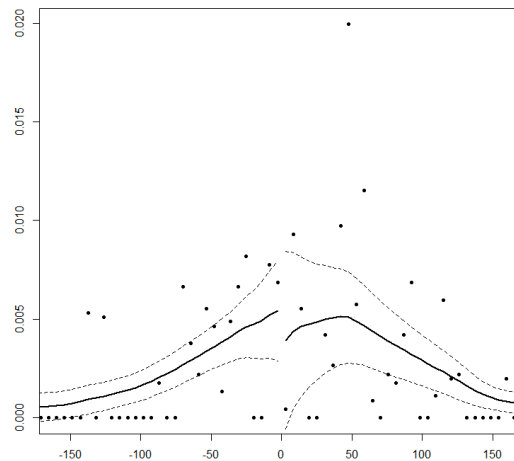


Figure 6.62: Density Test: Wait Time ID

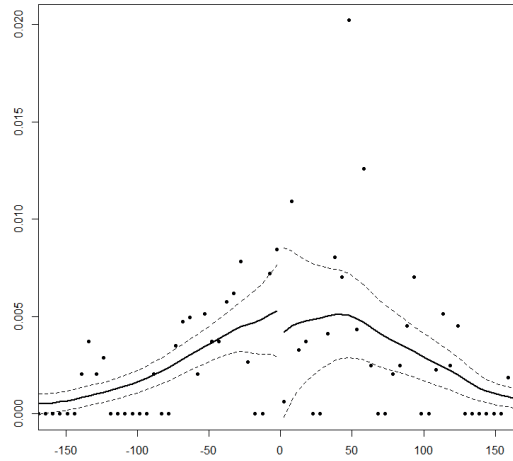


Figure 6.63: Density Test: Trust in Courts

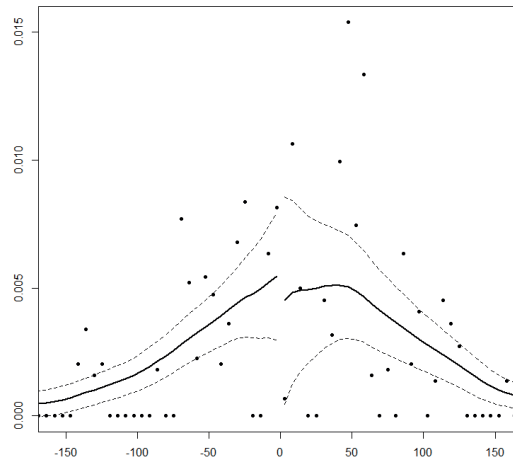
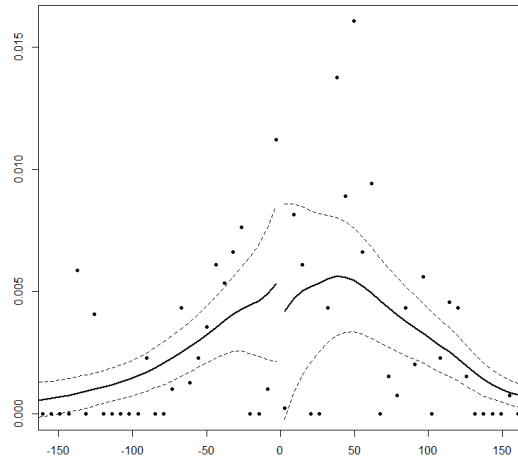


Figure 6.64: Density Test: Wait Time Car Registration



## Sensitivity Tests

I conduct multiple sensitivity tests to investigate the sensitivity to different bandwidths and specifications. The results indicate that most relationships I observe do not change substantially across different specifications, even though I cannot always reject the null hypothesis at  $\alpha = 0.1$ .

The following plots show those sensitivity tests for corruption levels (Figure 6.65), wait times for IDs (Figure 6.66), trust in courts (Figure 6.67), and wait times for cars (Figure 6.68). These graphs include 90-% confidence intervals.

**Figure 6.65:** Sensitivity Test: Corruption Levels

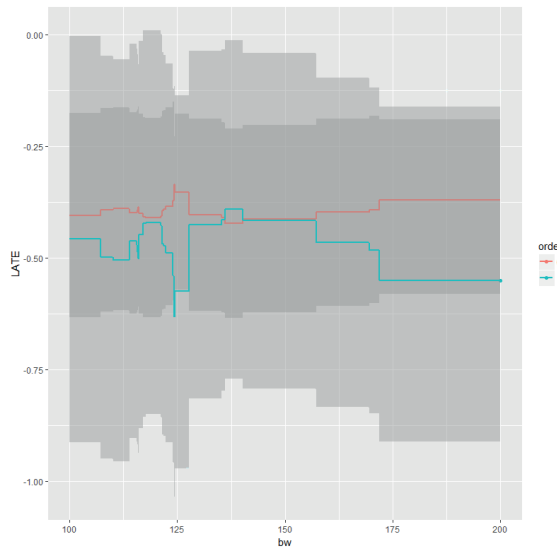


Figure 6.66: Sensitivity Test: Wait Time ID

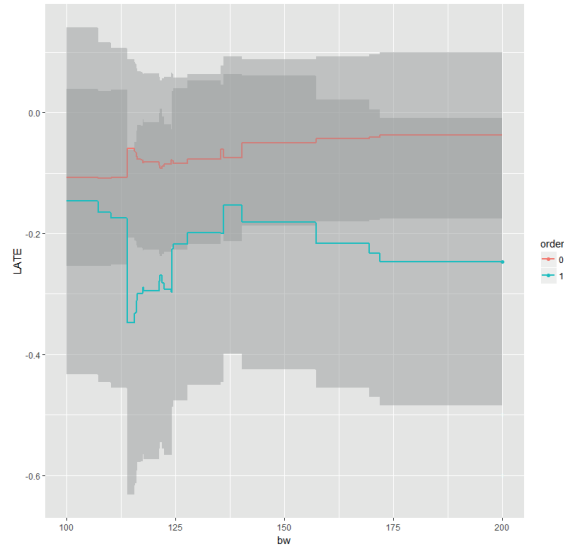


Figure 6.67: Sensitivity Test: Trust in Courts

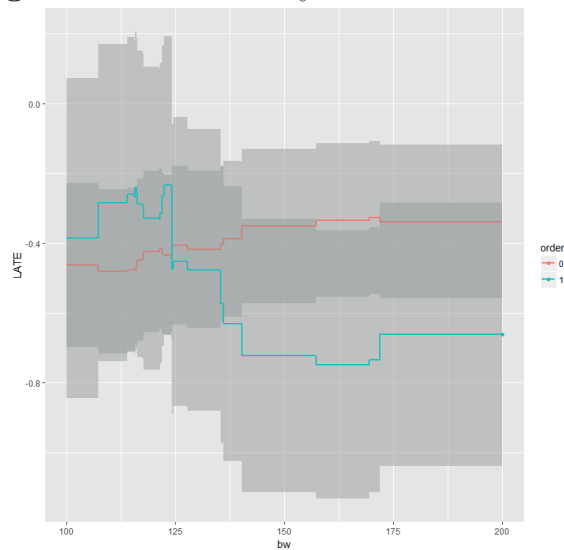
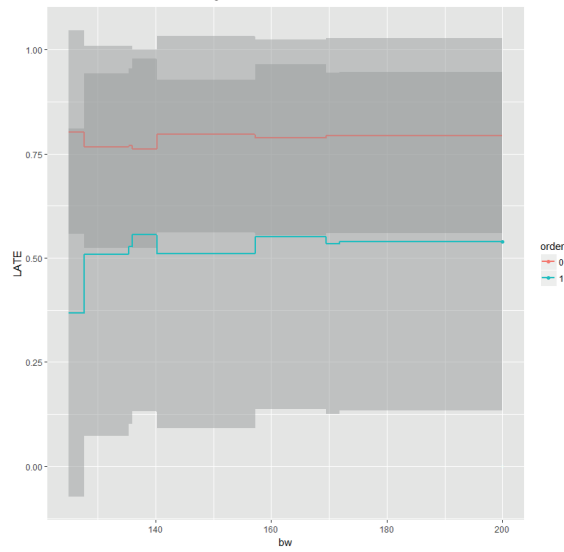


Figure 6.68: Sensitivity Test: Wait Time Car Registration



## Further Graphs

Figure 6.69, Figure 6.70, Figure 6.71, and Figure 6.72 show quadratic regressions at the optimal bandwidth. These graphs indicate the possibility of convergence in the quality of public institutions in the immediate vicinity of the historical borders, which may be caused by spillover effects. In the empirical results section of the chapter (subsection 4.4.4), I discuss this problem and matching as a possible alternative empirical test.

**Figure 6.69:** Comparison: Corruption Levels (Local)

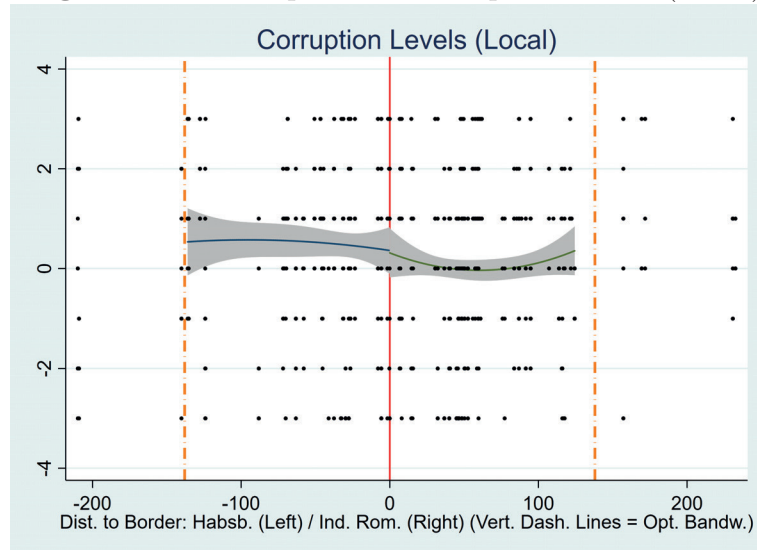




Figure 6.70: Comparison: Wait Time ID (Local)

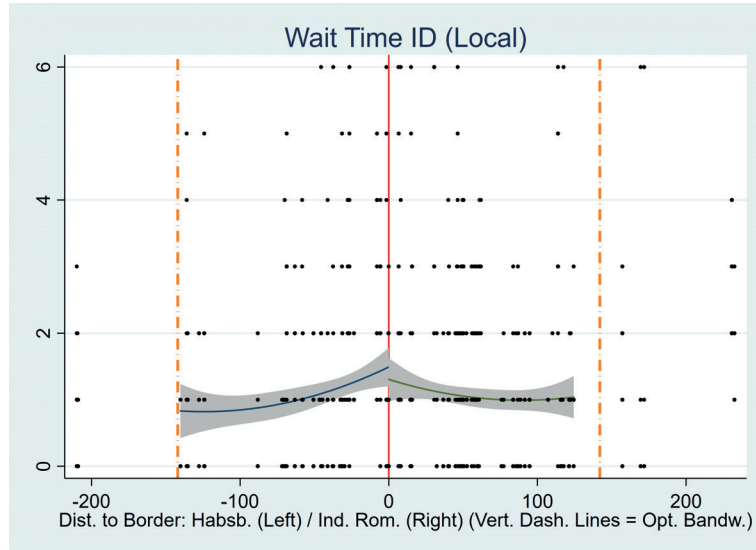


Figure 6.71: Comparison: Trust in Courts (Regional)

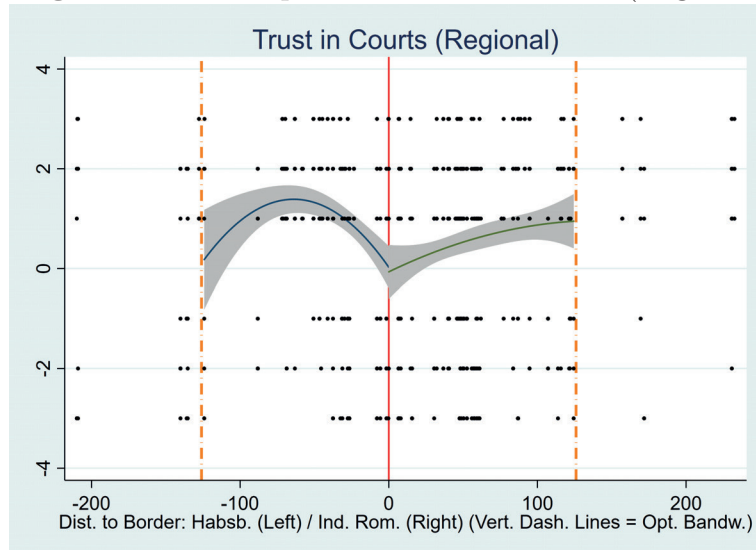
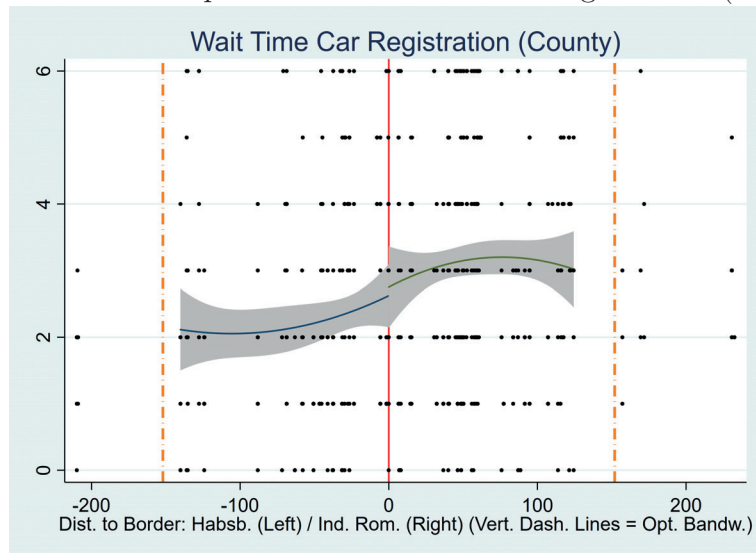


Figure 6.72: Comparison: Wait Time Car Registration (County)



### **6.3.11 Extension of the Geographic Analysis: Trust in the Local Public Administration**

In section 4.4, I have shown the full results for two of the local response variables. In this section, I present the results of the first additional variable: (1) trust into the local public administration (Table 6.38) and (2) the perceived efficiency of the local public administration (Table 6.39).

The results indicate that in terms of trust into the local public administration, there are no significant Habsburg legacies. This is in accordance with the expectation that Habsburg legacies are weaker or negative at the local level as hypothesized in section 4.2.

**Table 6.38:** Full Sample Comparison: Trust in Local P.A.

	<i>Dependent variable:</i>								
	Simple Distance			Trust in Loc. PA Lat./Long.			Lat./Long. Polyn.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Habsburg Empire	-0.061 (0.154)	-0.043 (0.156)	0.207 (0.185)	0.096 (0.156)	0.105 (0.158)	0.305 (0.187)	0.147 (0.194)	0.152 (0.195)	0.302 (0.232)
Commune		0.099 (0.138)	0.153 (0.165)		0.049 (0.137)	0.087 (0.165)		0.029 (0.141)	0.056 (0.168)
Municipality		0.062 (0.149)	0.240 (0.187)		0.004 (0.148)	0.166 (0.187)		-0.006 (0.154)	0.102 (0.194)
Female Mayor			-0.253 (0.281)			-0.174 (0.285)			-0.024 (0.289)
Same Party			-0.352*** (0.125)			-0.303** (0.126)			-0.249* (0.127)
Residence Years			0.002 (0.004)			0.002 (0.004)			0.004 (0.004)
Age			0.006 (0.005)			0.006 (0.005)			0.006 (0.005)
PA Work Exper.			0.231 (0.298)			0.259 (0.298)			0.161 (0.295)
Educ. Level			-0.042 (0.058)			-0.041 (0.058)			-0.014 (0.058)
Income Level			-0.073 (0.059)			-0.075 (0.059)			-0.060 (0.058)
Female			0.187 (0.117)			0.176 (0.117)			0.175 (0.115)
Capital			-0.605 (0.461)			-0.545 (0.463)			-0.249 (0.482)
Dist.	0.001 (0.001)	0.001 (0.001)	0.002 (0.002)	0.004* (0.002)	0.004* (0.002)	0.003 (0.002)	-0.0002 (0.005)	-0.0001 (0.005)	-0.001 (0.006)
Dist. * Habsburg Emp.	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.010*** (0.003)	-0.010*** (0.003)	-0.010*** (0.004)	-0.006 (0.006)	-0.007 (0.006)	-0.004 (0.007)
Constant	0.926*** (0.105)	0.847*** (0.155)	0.675* (0.357)	225.001*** (72.695)	224.605*** (72.770)	209.978** (91.999)	-9,036.754 (6,301.860)	-9,178.055 (6,363.457)	-5,306.683 (7,487.639)
Observations	997	997	730	997	997	730	997	997	730
R <sup>2</sup>	0.001	0.002	0.038	0.025	0.025	0.054	0.060	0.060	0.092
Adjusted R <sup>2</sup>	-0.002	-0.003	0.019	0.019	0.017	0.032	0.048	0.047	0.062

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 6.3.12 Extension of the Geographic Analysis: (Perceived) Efficiency of the Local Public Administration

In section 4.4, I have shown the full results for two of the local response variables. In this section, I present the results of the second additional variable: the perceived efficiency of the local public administration (Table 6.39).

The results indicate that in terms of the overall perceived efficiency, there are no significant Habsburg legacies. This is in accordance with the expectation that Habsburg legacies are weaker or negative at the local level as hypothesized in section 4.2. That a single regression reaches statistical significance (only at  $\alpha = 0.1$ ) is likely caused by statistical noise rather than actual underlying differences.

**Table 6.39:** Full Sample Comparison: (Perceived) Efficiency of Local P.A.

	<i>Dependent variable:</i>								
	Simple Distance			Efficiency of Loc. PA Lat./Long.			Lat./Long. Polyn.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Habsburg Empire	-0.041 (0.110)	-0.022 (0.111)	0.158 (0.129)	0.118 (0.110)	0.133 (0.111)	0.243* (0.130)	-0.038 (0.135)	-0.028 (0.136)	0.010 (0.159)
Commune		0.080 (0.100)	0.093 (0.117)		0.046 (0.098)	0.051 (0.117)		0.025 (0.100)	0.017 (0.118)
Municipality		-0.065 (0.108)	0.042 (0.132)		-0.100 (0.106)	-0.005 (0.132)		-0.122 (0.110)	-0.108 (0.135)
Female Mayor			0.033 (0.193)			0.154 (0.195)			0.294 (0.196)
Same Party			-0.092 (0.087)			-0.071 (0.088)			-0.052 (0.088)
Residence Years			0.0005 (0.003)			0.0001 (0.003)			0.002 (0.003)
Age			0.001 (0.003)			0.001 (0.003)			0.001 (0.003)
PA Work Exper.			0.525** (0.208)			0.513** (0.207)			0.417** (0.203)
Educ. Level			-0.108*** (0.041)			-0.101** (0.041)			-0.070* (0.040)
Income Level			-0.031 (0.041)			-0.037 (0.042)			-0.030 (0.041)
Female			0.029 (0.082)			0.028 (0.081)			0.028 (0.079)
Capital			-0.430 (0.331)			-0.468 (0.331)			-0.058 (0.342)
Dist.	0.0003 (0.001)	0.001 (0.001)	0.002 (0.001)	0.002* (0.001)	0.003** (0.001)	0.002 (0.002)	-0.010*** (0.003)	-0.010*** (0.003)	-0.009** (0.004)
Dist. * Habsburg Emp.	0.0002 (0.001)	-0.001 (0.001)	-0.001 (0.002)	-0.011*** (0.002)	-0.012*** (0.002)	-0.010*** (0.003)	-0.002 (0.004)	-0.002 (0.004)	-0.006 (0.005)
Constant	0.763*** (0.075)	0.713*** (0.112)	0.799*** (0.248)	289.948*** (50.939)	288.259*** (50.911)	242.234*** (63.936)	959.719 (4,468.222)	895.380 (4,504.022)	-657.583 (5,216.051)
Observations	956	956	702	956	956	702	956	956	702
R <sup>2</sup>	0.002	0.006	0.038	0.048	0.051	0.061	0.098	0.102	0.116
Adjusted R <sup>2</sup>	-0.001	0.0004	0.018	0.042	0.043	0.038	0.087	0.089	0.086

Note: OLS

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

### 6.3.13 Matching: Additional Information

In section 4.4, I have presented the results of regressions based on genetic matching. Below, I show several figures, which include detailed visual information on the distribution of propensity scores before and after matching. These graphs show to what extent the matching procedure has led to a more balanced comparison between treatment and control units.

Figure 6.73 and Figure 6.74 show the results for the level of ‘trust in courts.’ Figure 6.75 and Figure 6.76 show the results for the ‘wait times for car registration.’ Figure 6.77 and Figure 6.78 show the results for the ‘level of corruption (of local public administrations).’ Figure 6.79 and Figure 6.80 show the results for the ‘wait times for ID.’ Figure 6.81 and Figure 6.82 show the results for the level of ‘trust in local public administrations.’ Figure 6.83 and Figure 6.84 show the results for the ‘level of efficiency of local public administration.’

Figure 6.73: Distribution of Propensity Scores: Trust in Courts

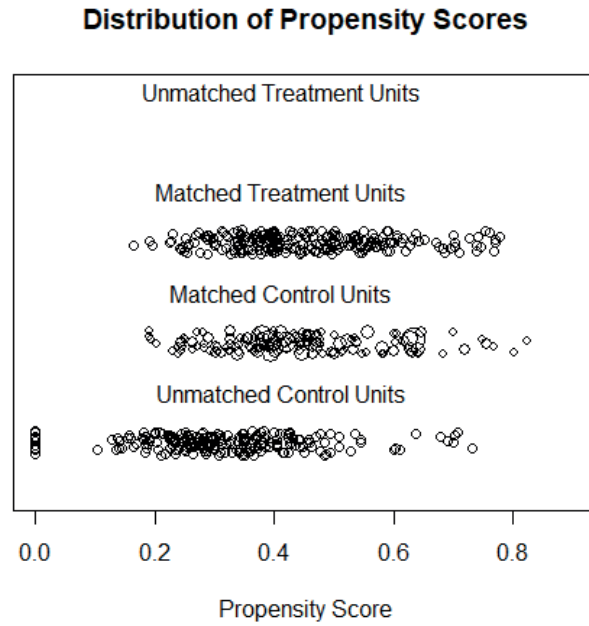


Figure 6.74: Histogram of Propensity Scores: Trust in Courts

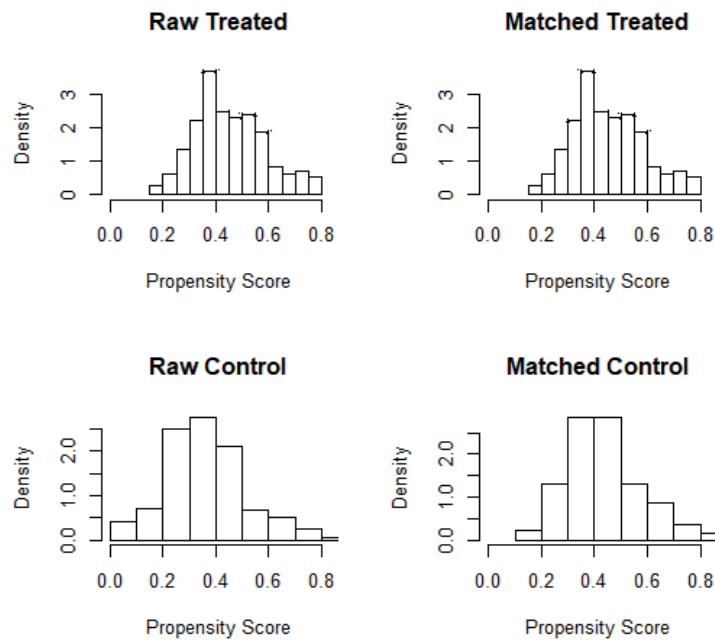




Figure 6.75: Distribution of Propensity Scores: Wait Time Car Registration

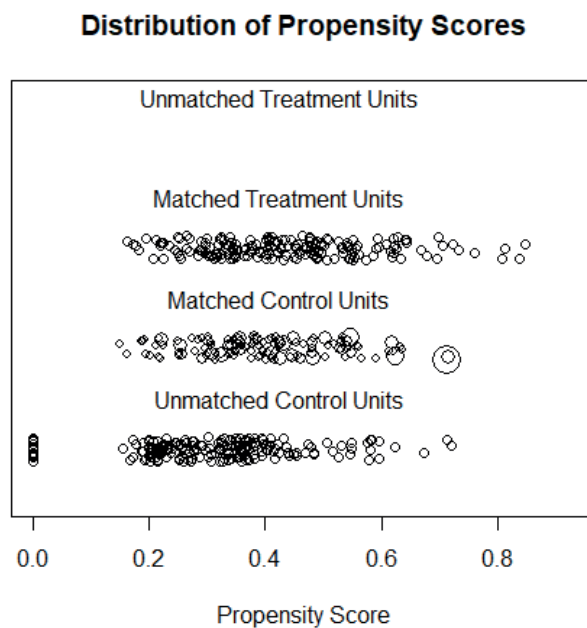


Figure 6.76: Histogram of Propensity Scores: Wait Time Car Registration

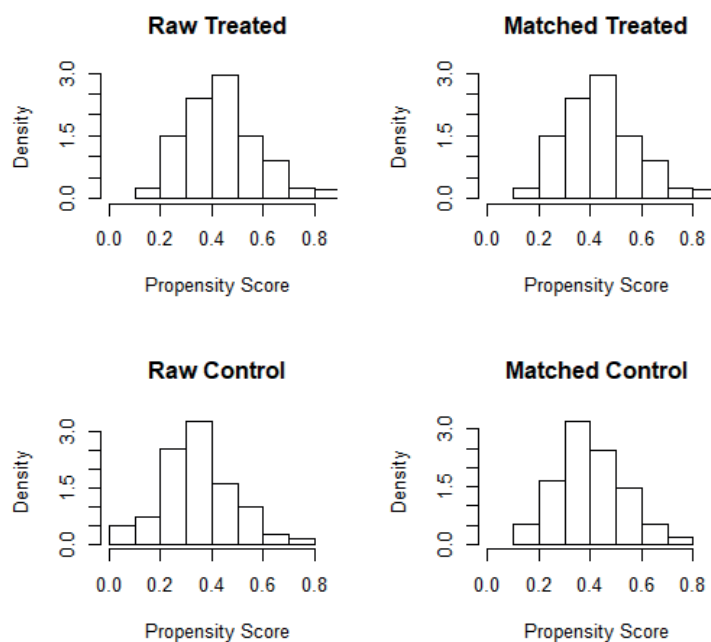


Figure 6.77: Distribution of Propensity Scores: Corruption Levels

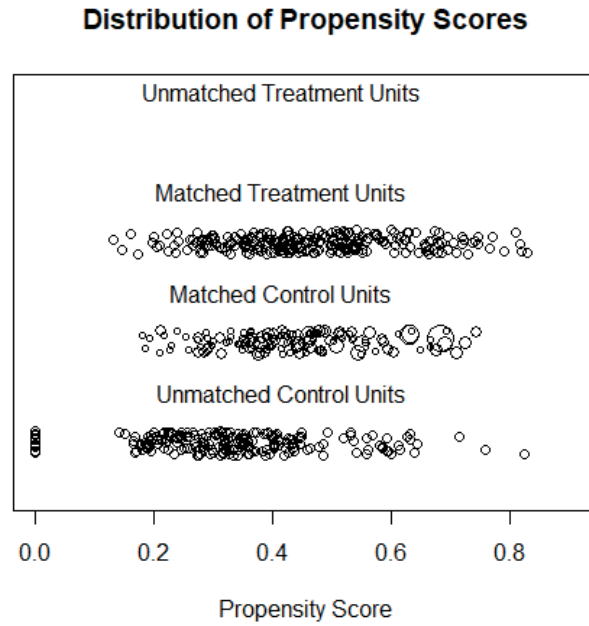


Figure 6.78: Histogram of Propensity Scores: Corruption Levels

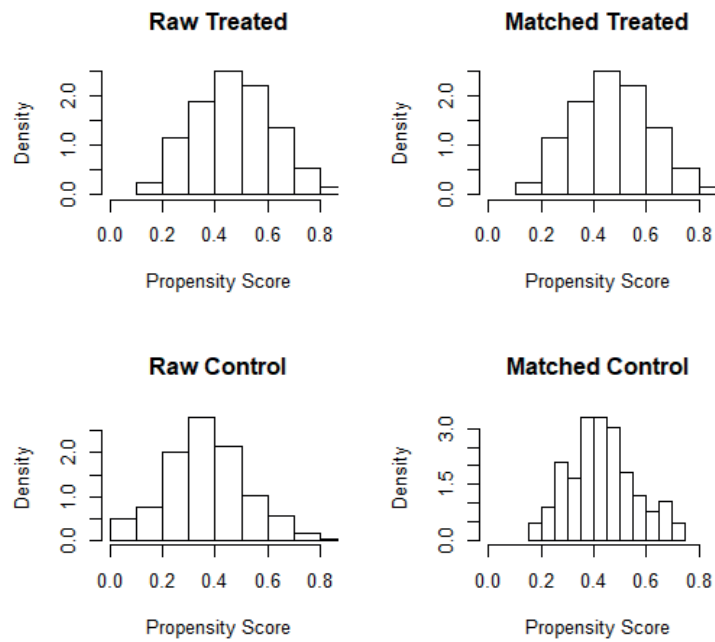


Figure 6.79: Distribution of Propensity Scores: Wait Time ID

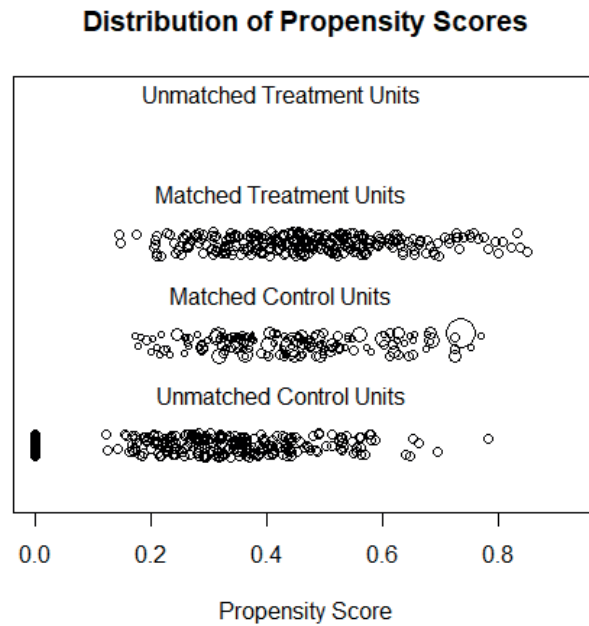


Figure 6.80: Histogram of Propensity Scores: Wait Time ID

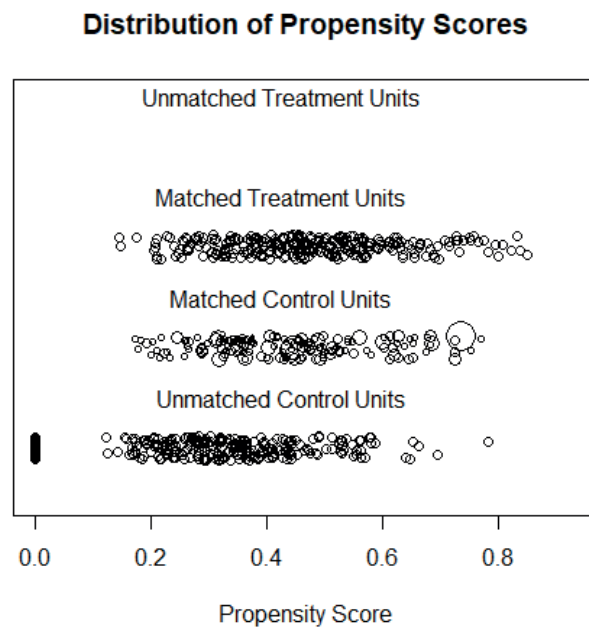


Figure 6.81: Distribution of Propensity Scores: Trust in Local P.A.

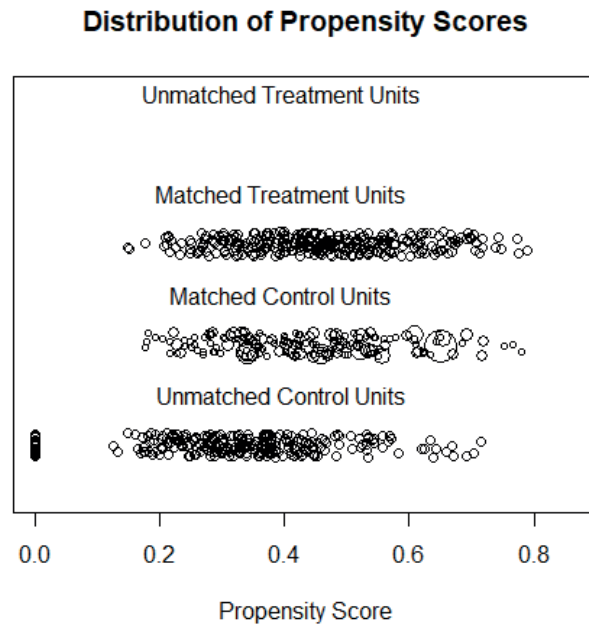


Figure 6.82: Histogram of Propensity Scores: Trust in Local P.A.

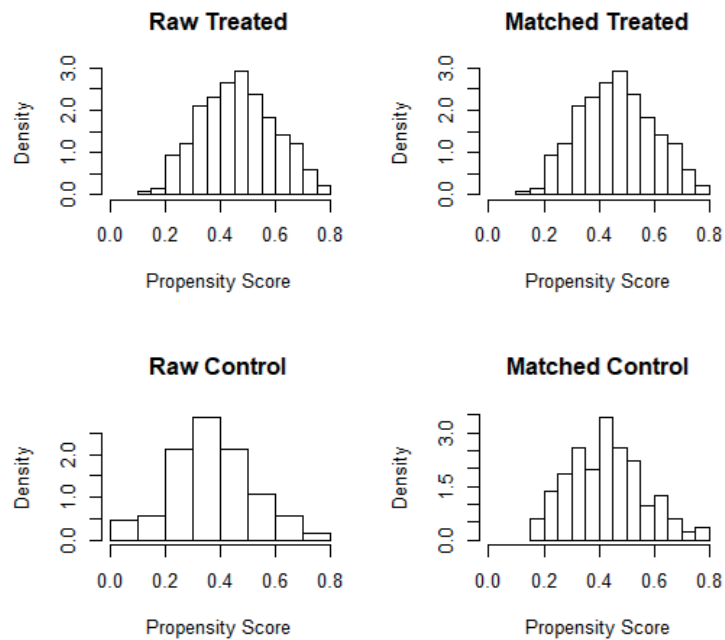


Figure 6.83: Distribution of Propensity Scores: Efficiency of Local P.A.

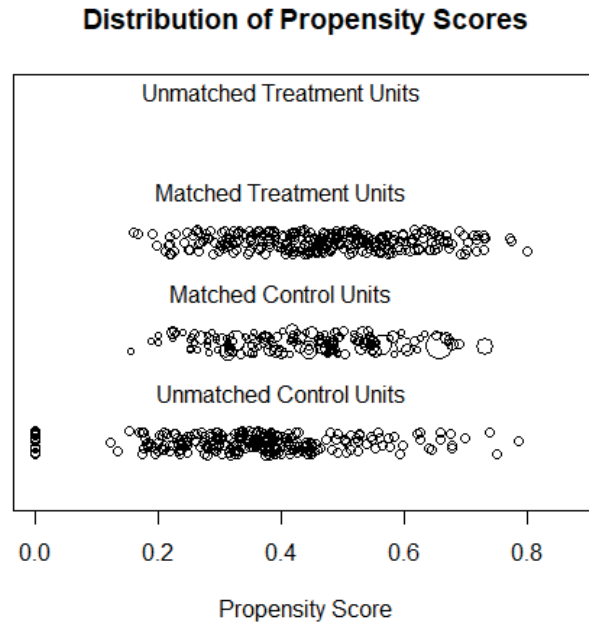
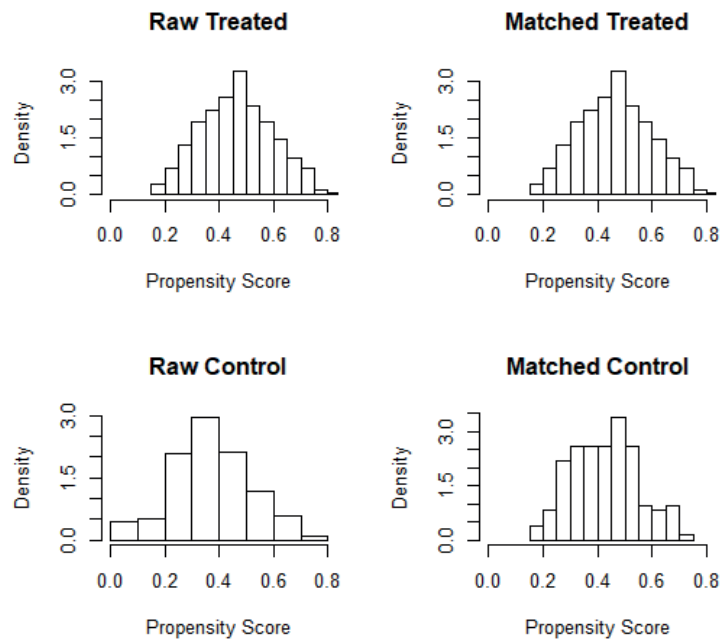


Figure 6.84: Histogram of Propensity Scores: Efficiency of Local P.A.



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## Biography

Jan P. Vogler received a B.A. in political science from the Free University of Berlin and a M.Sc. (with distinction) in international relations (research) from the London School of Economics and Political Science. While completing his undergraduate degree, he studied economics as an additional minor subject and spent one year at the University of California, Berkeley.

In September 2019, he will receive his Ph.D. in political science—with a specialization in political economy and political methodology—from Duke University. His research covers a wide range of topics, including the organization of public bureaucracies, various forms of political and economic competition (in domestic and international settings), the legacies of imperial rule, and structures and perceptions of the European Union. In this dissertation, he analyzes the determinants of cross-national and cross-regional variation in the institutions and performance of public administration by considering the impact of historical events and processes.

During his studies, he held scholarships and fellowships from a number of institutions, including the Friedrich Ebert Foundation, the German National Academic Foundation (*Studienstiftung des deutschen Volkes*), and the Kenan Institute for Ethics. Moreover, he recently was a Program for Advanced Research in the Social Sciences (PARISS) Fellow and a German National Academic Foundation Dissertation Fellow.

Following the completion of his Ph.D., he will be a post-doctoral research associate in the political economy of good government at the University of Virginia's Woodrow Wilson Department of Politics. In this role, he will also be affiliated with the Democracy Initiative.